DOCUMENT RESUME

ED 199 378 CE 024 299

AUTHOR	Hole, F. Marvin; And Others
TITLE	Assessment of Educational Needs for the Preparation of Health Occupations Education Teachers and Administrators in Pennsylvania. Health Occupations, Monograph Number 2. Vocational-Technical Education Research Report. Volume 15, Number 3.
INSTITUTION	Pennsylvania State Univ., University Park. Dept. of Vocational Education.
SPONS AGENCY	Pennsylvania State Dept. of Education, Harrisburg. Bureau of Vocational and Technical Education.
PUB DATE	Jun 77
NOTE	122p.; For related documents see ED 157 901 and ED 160 741.
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Administration; Administrator Education; Administrator Responsibility; Administrator Role; Administrators; Adult Education; *Allied Health Occupations Education; Competence; Competency Based Teacher Education; *Educational Needs; Guidelines; Job Skills; Leadership; Management Development; Needs Assessment; Postsecondary Education; *Program Effectiveness; Questionnaires; Secondary Education; Surveys; *Teacher Certification; *Teacher Education; Teacher Qualifications; Teacher Responsibility; Teacher Role; *Teaching Skills
IDENTIFIERS	*Pennsylvania

ABSTRACT

A research project examined adequacy and appropriateness of traditional means of teacher preparation for health occupations programs and made recommendations for change. Its specific task was to survey (via questionnaires) all personnel involved in health occupations programs at the secondary, postsecondary, and adult levels in various educational institutions of Pennsylvania. A major portion of the questionnaire requested teachers and administrators to indicate degree of competence they felt was needed as compared to degree of competence they had acquired with regard to their responsibilities and activities related to health occupations, general instruction, and leadership/management. Other portions requested biographical data and perceptions regarding certification guidelines and procedures and course time and meetings. Findings revealed 37% of respondents had no teaching certificate. The majority felt certification guidelines were at least somewhat adequate and courses taken for certification were very to somewhat important. Respondents felt a need for greater competence in all three activity areas surveyed. Approximately 63% indicated interest in participating in a program of health occupations teacher education. (Data are presented in fifty-one graphs and figures. The survey instrument is appended.) (YLB)

ED199378

THE
PENNSYLVANIA
STATE
UNIVERSITY
DEPARTMENT
OF
VOCATIONAL
EDUCATION

ASSESSMENT OF EDUCATIONAL NEEDS FOR THE PREPARATION OF HEALTH OCCUPATIONS EDUCATION TEACHERS AND ADMINISTRATORS IN PENNSYLVANIA

F. MARVIN HOLE
AND
LAURETTA COLE
AND
MARY ELLEN KELLY

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Pennsylvania Department of Education
Bureau of Vocational Education
(Project No. 412-14 (8977)

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

B. Ford

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

VOCATIONAL — TECHNICAL EDUCATION **Research Report**

June 1977

Health Occupations, Monograph Number 2

Volume 15, Number 3
(Departmental Classification Number)

Assessment of Educational Needs for the Preparation of Health Occupations Education Teachers and Administrators in Pennsylvania

F. Marvin Ho[illegible]e
and
Lauretta Cole
and
Mary Ellen Kelly

Division of Occupational and Vocational Studies
The Pennsylvania State University
University Park, Pennsylvania

June 1977

ACKNOWLEDGEMENTS

The authors extend sincere appreciation to The Pennsylvania Bureau of Vocational Education for their assistance in the completion of this study.

Appreciation is also extended to the health occupations education teachers and administrators who participated in the study.

A special thanks is extended to Kathy Spicer for editing and typing this monograph.

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS ii
LIST OF TABLES v
LIST OF FIGURES. viii
ABSTRACT ix

CHAPTER

I. BACKGROUND INFORMATION. 1
  Introduction 1
  Justification for Study 2
  Statement of the Problem. 3
  Definition of Terms 4
  Assumptions and Delimitations of Study. 8
    Vocational Teacher and/or Health Specialist 8
    Health Occupations Education and Allied Health Education 8

II. REVIEW OF THE LITERATURE. 10
  Overview. 10
  Health Occupations Teacher Education. 11
    Historical Perspectives 11
    Characteristics of Teacher Preparation for Health Occupations Education. 12
  Performance Requirements for Health Occupations Education Personnel 13
    Health Specialist and/or Teacher. 13
    Recommended Educational Experiences 14
  Related Studies 16
    Research and Demonstration Project Involving Students, Teachers and Administrators. 16
    Critical Incident Technique Involving Students. 17
  Impetus for Present Study 19
  Certification 19
  Summary 23

III. PROCEDURES. 25
  Introduction. 25
  Preliminary Preparation 25
    Development of Survey Instrument. 25
    Clearance by Human Subjects Review Committee. 27
  Data Collection Process 27
    Survey Population 27
    Demographic Information 28
    Qualitative Data. 30

CHAPTER Page

IV. DATA ANALYSIS 32
- Statistical Package for the Social Sciences 32
- Findings. 32
  - Introduction. 32
  - Background Data on Participants 32
  - Teaching Area/Facility. 40
  - Age 41
  - Education and Employment Background 41
  - Diplomas. 41
    - Degrees 44
  - Diplomas/Degrees. 47
  - Degrees/Position. 47
  - Degrees/Age 48
  - Educational Pursuits. 49
  - Educational Pursuit/Degree. 49
  - Health Experience in the Field of Health Occupations. . 50
  - Work Experience/Degree. 53
  - Credits Granted Toward Baccalaureate Degree and Methods of Verification of Educational and Professional Competence. 53
  - Certification 54
    - Teaching Certificate/Program Area 58
    - Teaching Certificate/Degree and/or Diploma. 58
- Competencies of Health Occupations Teachers and Administrators 69
  - Health Occupations Activities 69
    - Position/Health Occupations Activities. 71
    - Instructional Activities (IA) 72
    - Position/Instructional Activities 72
    - Leadership Management Activities (LMA). 73
    - Position/Leadership Management Activities 74
- Information Regarding Program Offerings 75
  - Degree and Type of Participation. 75
  - Time and Meeting Preferences. 82
  - Distance. 85

V. SUMMARY, RECOMMENDATIONS AND CONCLUSIONS. 89
- Summary 89
- Recommendations 91
- Conclusions 92

BIBLIOGRAPHY 93

APPENDIXES

A. Research Abstract Submitted to The Pennsylvania State University Human Subjects Review Committee 95

B. Questionnaire and Transmittal Letter. 98

LIST OF TABLES

Table Page

1 Survey Respondents 29

2 Numbers of Respondents According to Position Title 33

3 Employment Status of Respondents 33

4 Sex of Respondents 34

5 Enrollment in Federally Aided Vocational Education Classes, by Level and by Type of Program: United States and Outlying Areas, Fiscal Years 1964 to 1974. 35

5a Teachers of Federally Aided Vocational Education Classes, by Type of Program: United States and Outlying Areas, Fiscal Years 1970 to 1974. 36

6 Type of Educational Facility(s) Where Health Occupations Education Personnel are Employed. 37

7 Distribution of Health Occupations Education Staff by Program Area 38

8 Percentage of Respondents Employed at the Secondary Level in Area Vocational Technical Schools According to Program Area. 40

9 Number of Respondents Employed in Various Teaching Areas Within Various Facilities 42

10 Number of Respondents with Diplomas. 44

11 Number and Percentage of Responses to Types of Degrees Held. 46

12 Diploma(s) and Degree(s) Earned by Respondents 47

13 Type of Degrees Held by Respondents. 48

14 Degree(s) Held by Health Occupations Education Personnel Expressed in Percentage According to Age Category 48

15 Educational Pursuits of Respondents. 49

16 Number of Respondents with Associate and/or Baccalaureate Degrees by Educational Pursuits 50

17 Respondents' Status Regarding Educational Pursuits by Age. . 51

18 Work Experience in Health Occupations Field by Degrees Held. 53

Table Page

19 Credits Granted Respondents Toward Degrees 55

20 Types of Methods Used by Degree Granting Institutions to Verify Educational and Professional Competence. 56

21 A Comparison of Methods Used to Verify Educational and Professional Competence by Number of Respondents Holding Associate and/or Baccalaureate Degrees. 56

22 Number and Percentage of Types of Teaching Certificates Held by Respondents. 57

23 Number and Percentage of Respondents Holding Teaching Certificates According to Program Area of Health Occupations 59

24 Number of Respondents Certified to Teach in Program Area of Health Occupations and Type of Teaching Certificate Held. . 60

25 Comparisons of Number of Respondents Who Hold Diplomas and/or Degrees and Also Teaching Certificates 62

26 Adequacy of Certification Guidelines and Procedures According to Respondents. 63

27 Importance and Relevance of Courses Taken for Certification as Perceived by Respondents 64

28 Respondents Attitudes Regarding Changes in Certification of Health Occupations Teachers 64

29 Institutions Granting Certification to Respondents 65

30 Importance and Relevance of Courses Required for Certification Accord-ng to Respondents Who Hold Teaching Certificates in Various Health Occupations Education Program Areas 66

31 Perception of Respondents Who Hold Certificates to Teach in Program Areas of Health Occupations Regarding Adequacy of Certification Guidelines and Procedures Presently Established for Health Occupations. 67

32 Type of Change(s) in Certification which Respondents with Teaching Certificates Felt Deserved Consideration According to Program Area 68

33 Responses for Degree of Competence Acquired in Health Occupations Activities According to Position Title of Respondents 72

Table Page

34 Responses for Degree of Competence Acquired in Instructional Activities According to Position Title of Respondents 73

35 Responses for Degree of Competence Acquired in Leadership Management Activities According to Position Title of Respondents 74

36 Extent of Interest in Participating in a Program of Health Occupations Teacher Education 75

37 Interest in Participation in a Health Occupations Teacher Education Program--Respondents' Preferences with Regard to Course Offerings. 80

38 Interest in Participation in a Health Occupations Teacher Education Program--Responses According to Highest Education Level Attained. 81

39 Interest in Participation in a Health Occupations Teacher Education Program--Current Status With Regard to Educational Pursuits of Respondents. 83

40 Interest in Participation in a Health Occupations Teacher Education Program--Responses According to Age Level Expressed in Percentages. 84

41 Meetings--How Would You Prefer Course Meetings to be Scheduled 88

42 Classes--When Would it be Most Suitable for You to Attend Classes 88

43 Distance--What Distance Would You be Willing to Travel in Order to Participate in a Health Occupations Teacher Education Program 88

LIST OF FIGURES

Figure | Page

1 Flow-Diagram for Needs Assessment Study of Health Occupations Teachers and Administrators 26

2 Various Combinations of Teaching Areas for Some Health Occupations Education Staff 39

3 Age of Respondents 43

4 Comparison of Number of Respondents Who Earned RN Diplomas by Age. 45

5 Respondents' Years of Work Experience in Field of Health Occupations Other Than Teaching 52

6 Mean Competencies of Health Occupations Teachers and Administrators . . . Needed and Acquired 70

7 Histographic Illustration of Participants' Interest in Health Occupations Teacher Education Program (HOTEP). . . . 77

8 Percentage of Respondents' Preferences Regarding Course Offerings in HOE. 78

ABSTRACT

To assist in meeting present and future needs of health occupations education personnel, a research project was conducted by the Division of Occupational and Vocational Studies at The Pennsylvania State University. The overall objective of this study was to assess educational needs for the preparation of health occupations teachers and administrators in Pennsylvania.

The study examined the adequacy and appropriateness of traditional methods of teacher preparation for health occupations programs and made recommendations for change based upon conclusions of earlier studies of a similar nature and the findings of this study. The specific task of the project was to survey (via questionnaires) all personnel involved in health occupations programs at the secondary, postsecondary and adult levels in the various educational institutions of Pennsylvania. A major portion of the questionnaire requested teachers and administrators to indicate the degree of competence they felt was needed as compared to the degree of competence they had acquired with regard to their various responsibilities. The major categories of items included responsibilities and activities related to health occupations, general instruction, and leadership/management. Perceptions with regard to certification guidelines and procedures were also requested, as were preferences with regard to course time and meetings. In addition, biographical data on respondents from the target population is provided. Most of the data is presented in tables and graphs. The survey instrument and transmittal letter are appended.

I

BACKGROUND INFORMATION

Introduction

In order that society's health manpower needs be met at the highest level of individual and collective ability, programs preparing health workers must be carefully planned, organized, implemented and evaluated. To achieve these goals, quality leadership is vital. There must be sufficient numbers of competent personnel to provide appropriate instruction, guidance, and other supportive services.

Competence and leadership are not attributes which appear spontaneously in individuals when the need arises. Such important qualities must be continuously nurtured and developed. Health Occupations Teacher Education Programs can be instrumental in facilitating this development; however, such programs must be well-planned and must accurately respond to the assessed needs of Health Occupations Education teachers and administrators.

The recommendations of this project are based upon a needs assessment study of Health Occupations Education personnel in Pennsylvania. If teacher education programs are to be relevant, effective, and responsible to teacher needs, the relationship between teachers' education and their ultimate functioning as teachers must be continually assessed.

In the final analysis, health occupations education will be only as good as those who teach it. It is in this context, then, that this study proposes not only what health occupations teacher education programs ought to become, but what such programs must be.

Justification for Study

Although secondary as well as postsecondary programs in health occupations have demonstrated phenomenal growth and expansion, the educational systems preparing teachers and leadership personnel to staff such programs have not demonstrated comparable growth to keep pace with the ever increasing challenges and demands. In most states, including Pennsylvania, the implementation of viable teacher education for health occupations teachers has been neglected for too long; in fact, organized health occupations teacher education programs are just presently coming into existence. If communications between health specialists are to be improved, and newer educational concepts and strategies such as career mobility and articulation are to be implemented, a careful reevaluation of traditional teacher education practices is in order. Every effort must be made to prepare teachers who are equipped to deal with the varied and difficult challenges that lie ahead. Since the purpose of curricula in teacher education is to insure completion of their mission to prepare teachers to function effectively in our contemporary society, they must be continuously studied and evaluated.

The question must be raised as to how present and traditional methods of preparation and certification of health occupations education personnel can be improved. Obviously, roles are changing and expanding; a trend which teacher education programs must address. However, there is an even more general but extremely important issue about which health occupations teacher education programs must be perceptive; and that is, the educational needs and competencies of the variety of health specialists and other credentialized individuals who become teachers in health occupations education.

Probably one of the most essential objectives of health occupations teacher education programs is that they be congruent with the life experiences of teachers in the field. By identifying the professional educational needs of individuals and basing teacher education activities on such needs, health occupations teacher education programs will be of greater service to all groups involved with health occupations education.

Statement of the Problem

As the situation now stands in Pennsylvania, teachers in health occupations programs are working toward various degrees and certification in the many institutions of the Commonwealth. In the pursuit of such diverse educational patterns, coupled with the lack of established health occupations teacher education programs in Pennsylvania, it is conceivable that almost all health occupations education teachers obtain degrees and certification without the benefit of core courses in health occupations education.

Questions must be raised as to the validity of such diverse educational approaches for teachers in health occupations. Do existing education programs adequately address the unique needs and concerns of health occupations education personnel? Have such programs made provision for the development of pedagogical as well as technical competence? Are certification guidelines for health occupations education teachers realistic and relevant when courses in health occupations education are not required?

The fact that at least 95 percent of teachers in health occupations in Pennsylvania are women poses another interesting facet to the overall problem (Borkovich and Welch, 1975). One may query about the various professional registration and certification requirements for health practice. Do such demands in fact impose constraints upon those wishing to advance to leadership positions in vocational education? Moreover, are advancement possibilities limited because of a lack of organized education programs leading to advanced preparation and subsequent promotion?

Issues and concerns such as the above have provided the major focus for this project, of which the primary purpose is assessment of educational needs of health occupations education personnel. Based upon the identified needs of the teachers and administrators to be served, recommendations were made with regard to the establishment of health occupations teacher education programs in Pennsylvania.

Contributing objectives were as follows:

1. To determine pedagogical and andragogical needs of health occupations teachers and administrators
2. To identify criteria for teacher certification of health occupations educators.

In summary, this research has been designed to identify competencies needed by health occupations education teachers and administrators. The recommendations herein provide for not only a call to action, but for a plan of action as well.

Definition of Terms

Some of the terms used in health occupations education are subject to diverse interpretation. To clarify understanding, definitions of selected terms follow:

Adult Vocational Education: Programs designed to provide training or retraining to insure stability or advancement in employment of persons who have already entered the labor market and who are either employed or seeking employment (Federal Register, 1970).

Andragogical: Pertaining to andragogy . . . the art and science of helping adults learn (Knowles, 1970).

Area Vocational Technical School (AVTS): Is any public school or public institution which falls in any one of the following categories:

a. a specialized high school used exclusively or principally for the provision of vocational education
b. the department of a high school used exclusively or principally to provide vocational education in no less than five different occupational fields
c. a technical or vocational school used exclusively or principally to provide vocational education to persons who have completed or left high school
d. the department or division of a junior or community college or university which provides vocational educational education in no less than five occupational fields, under the supervision of the State Board, and leading to immediate employment but not necessarily leading to a baccalaureate degree (Wenrich and Wenrich, 1974).

Community College: A two-year postsecondary institution operated by the board of education of a local basic administrative unit or units. Instruction is adapted in content, level, and schedule to the needs of the local community.

Continuing Education: Relevant study by the individual beyond basic preparation, generally considered to be essential for competent practice.

Health Occupations Education: A program of occupational preparation conducted within technical education, as authorized under various Federal acts (Powers, 1970).

Administered by: The United States Office of Education (USOE) in partnership with State Departments of Vocational and Technical Education,

Serves: All states and territories of the United States; persons of all ages, in all communities, regardless of social or economic status,

Provides education and training: Suited to individual capabilities and needs; which will enable individuals to become employed or to advance in their jobs; for occupations requiring education below a baccalaureate degree.

Pedagogical: Pertaining to pedagogy . . . , the art and science of teaching.

Postsecondary Vocational Education: Designed primarily for youth and adults who have completed or left high school and who are available for an organized program of study in preparation for entering the labor market. The term shall not be limited to vocational education at the level beyond grade 12 if the vocational education needs of the persons to be served, particularly high school dropouts, require vocational education at a lower grade level (Federal Register, 1970).

Sabbatical Leave: A leave of absence with full or partial remuneration, following a designated number of consecutive years of service, providing members of the instructional staff with opportunity for self-improvement through activities such as graduate study, occupational experience or training, travel, writing, and recuperation (USOE, 1970).

State Board for Vocational Education: Designated or created by state law as the sole state agency responsible for the administration of vocational education, or for supervision of the administration by local educational agencies.

Teacher Certification: Granted after the minimum academic, professional, and other standards established by the state department of education are met by those who wish to teach full- or part-time in the public school system.

Vocational Education: Specialized courses and programs elected by individuals having an interest in preparing for a particular occupation or family of occupations. It is designed to prepare individuals for gainful employment as semiskilled or skilled workers, technicians or subprofessionals in recognized occupations and in new and emerging occupations, or to prepare individuals for enrollment in advanced technical education programs, but excluding any program to prepare individuals for employment in occupations generally considered professional or which require a baccalaureate or higher degree.

The following program definitions have been formulated by combining subject matter definitions contained in Standard Terminology for Curriculum and Instruction in Local and State School Systems, along with occupational title definitions set forth in the Instructional Guides for Teachers in each of the health occupations areas, published by the Pennsylvania Department of Education, Bureau of Vocational Education.

Dental Assistant: A combination of subject matter and experiences designed to prepare persons to assist the licensed dentist in private offices, group practice, dental clinics, or federal agencies. Although the dental assistant's primary function is chairside assisting, he/she may also perform receptionist and clerical functions, and carry out selected laboratory work under the supervision of the dentist.

Dental Laboratory Technology: A combination of subject matter and experiences designed to prepare a person to execute the work in producing restorative appliances required for the oral health of the patient as authorized by the dentist.

Health Assistant: Prepares entry level workers for a variety of health occupations. Instruction includes personal hygiene, elementary body structure and function, communication skills, basic office assisting techniques, first aid, bacteriology, sterilization, and laboratory techniques. Health assistants work under the supervision of a professional, e.g., performing simple tasks assigned by a nurse, or assisting physicians and/or dentists in their offices, and performing simple laboratory procedures. In addition, health assistants might help in the care of ill or convalescent persons in the home, or handle clerical duties in health care facilities.

Health Related Technology: Is intended for students who are preparing to enter a postsecondary health occupations program and become part of the health team at the level of the technician, technologist, or professional. This program teaches the application of scientific knowledge and selected technical skills, and provides a vocational education adjunct to students who are preparing to enter a postsecondary health occupations program, and who may seek employment in health occupations while pursuing such a program.

Home-Health Management Assistant: Program which prepares unlicensed nonprofessional workers to give personal care to convalescent, disabled or chronically ill persons of all ages, and to provide home management assistance to individuals and families. Personal care duties which may be performed are essentially those which would be performed by a nursing assistant in an institution and/or those could be performed by a knowledgeable family member.

Medical Assistant: A combination of subject matter and experiences designed primarily to prepare students to assist the licensed physician in the medical side of the overall office practice, e.g., assisting with physical examinations, and performing simple laboratory and x-ray procedures. In addition, the medical assistant may make appointments, complete insurance forms, collect fees, type business letters, and assist in keeping medical records.

Medical Laboratory Assistant: A combination of subject matter and experiences which prepares persons to work under the supervision of medical technologists, clinical pathologists, or physicians in performing routine laboratory procedures, e.g., bacteriology, blood banking, chemistry, hematology, parasitology, sexiology and urinalysis.

Nursing Assistant (Aide): A combination of subject matter and experiences which prepared a person to perform simple tasks involved in the personal care of individuals receiving nursing services. Nursing assistants work under the supervision and direction of a professional nurse.

Practical Nursing: A combination of subject matter and supervised clinical experiences designed to prepare a person to give direct nursing care under the supervision of a professional nurse or physician.

Assumptions and Delimitations of Study

Vocational Teacher and/or Health Specialist

The fact must be recognized that health occupations teachers are vocational educators and, as such, must possess two requisites in order to function successfully. They not only must know what to teach, but also how to teach it. Therefore, this study accepts the premise that both educational preparation and occupational experience are necessary for success as a health occupations teacher.

Health Occupations Education and Allied Health Education

The terms health occupations education and allied health education are not used interchangeably in this study. The former is comprised of knowledge and experience which is required to support the health professions. The official agency designated with the responsibility for health occupations education is the Division of Vocational Education, United States Office of Education (USOE). Health occupations education has been defined under the law to mean those occupations in the health field which require preparation below the baccalaureate level.

II

REVIEW OF THE LITERATURE

Overview

Any research project should build on the knowledge and research which preceded it. Assimilation and integration of the past with the present serves to move knowledge forward; otherwise research is merely an academic exercise, serving little to influence educational progress and development.

A literature search was made utilizing Educational Resources Information System" (ERIC), as well as "Abstracts of Instructional Materials," and "Abstracts of Research and Related Materials" (AIM-ARM), (a part of the ERIC Clearinghouse on Vocational-Technical Education). In addition, a computer search was conducted using the Lockheed Dialog System better known to some individuals as Computer Based Bibliographic Search Services (CBBSS).

Probably because health occupations education itself is a relative newcomer in the arena of public education, the literature was not replete with topics relating to the education of teachers for this field. Consequently, the related research and information on educational activities which was available was combined with selected literature on general vocational teacher education and certification; this seemed to provide the necessary background and awareness from which this study proceeded.

The major areas explored have been generally classified into two broad categories: 1) Health Occupations Teacher Education and, 2) Certification.

Health Occupations Teacher Education

Historical Perspectives

Prior to 1956, Health Occupations Education was a relative unknown insofar as the system of public education was concerned. However, as the 1956 Public Health Amendments authorized federal funds to support "health occupations" education, public education became involved in this area and the term "health occupations" education was defined under the law to mean those occupations in the health field requiring preparation below the baccalaureate level (Powers, 1970). Following this legislation, practical nursing as well as other programs preparing health workers were initiated. Such programs showed a steady increase into the 1960's when there was a rapid growth of school based Health Occupations Education programs financed with public funds. From a national enrollment figure of some 10,000 health occupations education students in the early 1950's, this figure increased to nearly 270,000 in 1971, with federal/state/local expenditures exceeding 120 million dollars annually (Powers, 1970).

After a quarter of a century, health occupations education has progressed to the point of becoming a viable system. Concomitantly however, although health occupations education is the fastest growing vocational and technical field, teacher education activities have not kept up with the rapid expansion of programs (Holloway and Bailey, 1971). The present "state of affairs" with respect to educational preparation of health occupations education personnel, might be traced back to the Smith-Hughes era. At this time, occupational competence was a prime requisite for a vocational teacher. All other qualifications were secondary. As a result, the trend which developed was a demand for occupational competence at the onset, with teaching competence to be developed on an inservice training basis (Ford, 1974). The National Advisory Council on Educational Professional Development (NACEPD) (1973) cites reasons which are significant regarding the development of this situation:

> . . . in order to fill vacant positions, schools recruit people directly from employment and put them to work as teachers, with little or no preparation . . .
>
> . . . universities have been slow to transfer resources from programs which prepare teachers of over-supplied fields such as History and English, to programs which upgrade teachers of shortage fields, such as vocational and practical arts education.

In health occupations education, especially at the postsecondary level, increased growth and expansion of programs gave rise to more stringent educational requirements for teachers of such programs. Not only were certification guidelines established, but teachers were also encouraged to work toward a degree(s).

Characteristics of Teacher Preparation for Health Occupations Education

Current practices for the preparation of teachers for programs in health occupations education vary nationally as well as regionally and locally. The National Advisory Council on Educational Professional Development has addressed this issue by declaring that the "greatest unmet need for personnel development for teachers is in the health occupations area." The National Advisory Council on Educational Professional Development reproaches the Federal Government's lack of coordination in various activities which are almost entirely aimed at increasing technical rather than instructional competence (NACEPD, 1973).

Generally, Pennsylvania's health occupations education teacher needs reflect those of state and national studies which suggest increasing demands for trained personnel. Borkovich and Welch (1975) observed that health occupations teachers come directly from the health profession, with little or no professional education courses to qualify them as teachers. Registered Nurses (RN) who graduated from Diploma Schools of Nursing and who comprise the largest group of "specialists" in health occupations education in Pennsylvania, meet the requirement for vocational education teachers insofar as occupational competence is concerned. However, an important issue is the background of experiences (educational and/or other) which qualifies them to teach in their particular area (Borkovich and Welch, 1975).

Without an established program of health occupations teacher education, health specialists such as RN's may choose to pursue various degrees which are consistent with their personal interests and/or the degree-granting institution's proximity to their residence. The findings reported by Borkovich and Welch attest to the educational diversity of RN's employed as teachers. For example, instructors in nursing and health programs at the secondary level hold degrees in education, nursing, "other disciplines," or "specialty areas" (Borkovich and Welch, 1975).

Performance Requirements for Health Occupations Education Personnel

Health Specialist and/or Teacher?

The National Advisory Council on Educational Professional Development has declared the two requisites for a successful vocational teacher. He/she must know: 1) what to teach and, 2) how to teach it.

Milliken (1974) observes that many school personnel assume that any credentialized health practitioner has an adequate grasp of his/her particular field and can thus teach it. In addition to having acquired experience in one or more of the health professions, health occupations education teachers need pedogogical skills (Fox, 1973). Andragogical skills are also important for teachers working with adult learners.

Tomlinson (1970) makes the assertion that teachers who have come through the background of a specific health area are still identified pretty much with that health specialty. RN's for example are regarded as possessing expertise in the field of nursing. However, Fox (1972) has observed that, being human, the specialist tends to emphasize his/her field and minimize or ignore others. In the expanding health occupations education system, health specialty teachers are asked to give up, or lose, an identity in order to have a broader view of the health field. According to Tomlinson (1970) teachers must be involved with helping to define the objectives of the program, not just within the specialty but also for those courses that are related. He seems to suggest that teachers of health occupations education may be handicapped without some orientation and conception of the general health field and how a particular specialty fits into the total health care system--an obvious call to the need for Health Occupations Teacher Education Programs.

Recommended Educational Experiences

Bruess (1976) suggests that programs preparing health teachers must reflect the dynamic social forces and technological advances affecting man and society. Consistent with this position, a publication titled: Recommended Standards and Guidelines for Teacher Preparation in Health Education (1969) has declared the importance of health teachers meeting education requirements along with courses in the biological, physical, and behavioral sciences.

Since for the most part, technically competent instructional staff members come from the ranks of those prepared and experienced in the health field but are not prepared as teachers. Holloway and Bailey (1971) state:

> If these teachers are to maximize learning in the activities for which they are responsible, they need assistance in gaining the necessary teaching competencies before beginning, or early in their teaching career. In most instances the only acquaintance with the teaching process that such instructors have is their own experience as a student. These were often in a higher level program and may be inappropriate for the group being taught. Also, such experiences have failed to include many of the more modern and innovative learning strategies.

It is therefore unrealistic to expect new teachers in health occcupations education to function efficiently without extensive in-depth preparation for this role.

"Work experience as a deliverer of health services, combined with preparation as a health educator, constitutes sufficient background for teaching" (Milliken, 1974).

Davies (1967) describes the need for teachers and administrators who can think clearly, are curious about ideas and things, have a range of interests and passions, can see the relationships between ideas in several fields, behave intelligently, and apply knowledge and reason to problems.

Kerr (1974) calls attention to "basic characteristics needed for effective leadership in health occupations education." She says, a leader for this field must be familiar with the total education system and the role of vocational education within it, plus:

> . . . have a commitment to the philosophy and goals of vocational and technical education; where required or appropriate, have achieved competence in a health profession and all the necessary credentials required by that profession or group; be somewhat familiar with various health professions; possess skills in curriculum development,

> instructional processes, and counseling; identify and work with health professional associations and agencies which set standards for educational professionalism; be alert to community health care needs, and identify and use community resources to help meet these needs; be familiar with the needs of and the current and new developments in the health care delivery system; be familiar with existing and potential state and national legislation that affects or has implications for the field of education in general, vocational education, and government; have the ability to prepare and administer budgets.

A plausible means through which the above attributes can be developed is by the participation in quality teacher-education activities. The literature reveals that too few programs of this type have been established. An alternative method for gaining teaching competencies has been through the use of short-term institutes, workshops or conferences. While such preservice and inservice workshops are helpful, Cotrell (1971) believes that a concerted effort has to be made to provide formalized degree programs to serve all of vocational education personnel.

Related Studies

Research and Demonstration Project Involving Students, Teachers and Administrators

The School of Research Sciences in the College of Fine and Applied Arts and Sciences at the State College of Arkansas conducted a research and demonstration program for the "Preparation of health occupations education Teachers for Secondary and Postsecondary Schools." Fox (1973) explains the two major problems which the study addressed:

> The need to provide inservice health occupations teachers at the secondary level and teachers of health professionals at the postsecondary level with pedagogical skills.
>
> The need for secondary health occupations education teachers to have a broad knowledge of the requirements, duties and responsibilities of all areas involved in the health field.

One of the program objectives called for the planning and implementing of teacher education activities. Health occupations education teachers in secondary and postsecondary schools were then subsequently provided with "training in order to be able to utilize the latest teaching methods in the courses they taught" (Fox, 1973). Following the program offerings, an evaluation was made. In essence, the evaluation and conclusions follow (Fox, 1973):

Attitude Evaluation	Conclusion
Students toward Participants	Student appraisal was higher following the completion of the year's offerings.
Participants toward Themselves	Changes in self-conficence reflected in instruments administered at intervals during the program.
Participants toward Program	A number of participants continued to enroll in course offerings provided by SCA.
State Department of Education (SDE) and SCA Faculty toward Participants	Video-taped performances revealed marked improvement in teaching skills, teacher confidence and class presentation.

In summary, this project thus confirms the need for health occupations teacher education programs in order that teachers develop competence in educational teaching methods, as well as knowledge of the spectrum of health and health-related professions.

Critical Incident Technique Involving Students

Arlton (1975) used the critical incident technique to collect reports of observed teacher behaviors which students perceived as being especially effective or ineffective for teacher performance. Results of a study by Flanagan (1948) indicated that the most adequate of several procedures for defining requirements of a job was the systematic analysis of good and poor job performance, e.g., the critical incident technique. In Arlton's study (1975) the kinds of behavior students commented on were:

1. instructional methods,
2. classroom management,
3. personal and career guidance
4. student evaluation, and
5. coordination of plans with the health facility to obtain field experiences for students.

Overall, the results showed that students greatest concerns related first to classroom management and then to instructional methods and techniques. Students were most disturbed by improper classroom management.

The critical requirements derived in this study were compared with those of 1) a general education teacher competency study, and 2) a vocational teacher competency study. This comparison suggested that health occupations education teachers must possess the same kinds of professional knowledge and skills as general education teachers, and in addition, must possess the knowledge and skills which allow them to function effectively in:

> . . . planning and arranging for student hands-on learning experiences in community health facilities, assisting students to learn vocational skills, assisting students to identify and work through personal and career guidance problems (Arlton, 1974).

The data provided by this study gives even further validity to prior inferences about the competencies health occupations teacher education programs should help teachers to develop. The evidence seems to suggest that health personnel need to become as skilled at teaching as they are in their particular health area.

Impetus for Present Study

While the State College of Arkansas study assessed students, teachers, and SDE personnel's attitudes toward teachers following said teachers' participation in teacher education activities, and the Arlton study used the critical incident technique to identify behavior which students perceived as being especially effective or ineffective in teachers, the present research studied the various competencies teachers and administrators feel are needed in relation to competencies they have acquired. To assist in meeting the present and future needs in teacher education for health occupations education, Holloway and Bailey (1971) have recommended that:

> . . . subject matter of teacher education activities be based upon identified needs of those to be served.
>
> . . . a wide variety of administrative formats and types of short-term teachers education activities be available, so as to best meet the needs of all teachers.
>
> . . . whenever possible, teacher education programs be designed to serve a variety of health specialists and levels in order to improve communication and to facilitate articulation efforts.
>
> . . . every effort be made to prepare teachers who are capable of implementing the newer concepts and strategies of educational technology, and who are sufficiently concerned with the desirability of humanizing education through applying learner-centeredness to the educational process.
>
> . . . efforts be made to change certification regulations so that those with demonstrated competency may teach, rather than restricting certification to those who have obtained certain academic credentials.

Certification

The preceding review of Health Occupations Teacher Education clearly shows that health professions and health related careers represent one of the fastest growing industries in the United States. Thus, the need for persons who provide quality health services increases dramatically everyday, and therefore, the need for qualified personnel to teach Health Occupations courses increases likewise. So, as our nation attempts to improve both the quantity and quality of health services for its citizens, educational institutions have the grave responsibility of providing programs that will prepare students to meet requirements necessary to teach at secondary and postsecondary levels in public schools.

A review of the literature revealed that much is written about Certification in general, but very little pertains specifically to the area of Health Occupations. Evans (1973) noted that since the early 1900's, certification has become more necessary as society has grown more complex, and the need for teachers of vocational subjects increased along with these changes. An accelerated program of vocational education was brought on by the enactment of the Smith-Hughes Act in 1917. This act specified that vocational teachers must have practical experience and minimum kinds of teacher training to teach in reimbursed public programs. This was the last time the vocational teaching profession received guidance regarding qualifications for teachers. According to the Federal Board for Vocational Education in its pronouncement of August, 1918:

> It is, of course, essential always that the teacher shall be able to teach, but it does not follow that he shall always qualify as a professional teacher.

Evans (1973) found that when a person begins teaching in a vocational area and has had absolutely no prior teacher education, in most states, the usual understanding is that one or so courses per year will be completed until minimum standards are reached.

Changes have been taking place gradually in certification requirements. Evans (1973) notes, however, that there is a national trend toward combining many types of vocational education programs. This trend places more emphasis on degree programs for vocational teachers and requires more work experience for any person who received certification upon completion of a baccalaureate degree.

According to Ramp (1972), teacher certification is a responsibility of each individual state in the United States. Therefore, he points out that qualifications for teachers of vocational programs are quite diverse, and the fact that vocational teachers function at both secondary and postsecondary levels in various programs occasionally leads to confusion. With regard to this, Ramp (1972) states:

> About all that can be assumed with any degree of certainty is that vocational teachers in reimbursed programs in all states must possess some amount of work experience and are supposed to have been exposed to some teacher education experiences.

Since federal money is expended for vocational instruction, should there not be some uniformity in the quality of instruction?

It is easy to understand why the area high on the priority list in Health Occupations Education is the selection of personnel who are competent to teach in the various subject areas, and who can be effective with their students. But, many times, the sole criterion for teacher selection in the Health Occupations field (as in general vocational areas) is availability according to Milliken (1974). Milliken (1974) stresses that selection criteria needs to be used to help prevent such displeasure with teaching.

Recommendations for Certification Standards made at the National Invitational Conference for Determining Future Directions and Development of Efficient and Effective Teacher Education Programs (1974) are as follows:

> . . . consideration should be given to applicant's work experience when determining his qualifications.
>
> . . . certification standards should include a professional education component which consists of general education or liberal arts component when certification is obtained in conjunction with a university degree . . . i.e., degree requirements.
>
> . . . certification standards should include a minimum of preparation in a health specialty to assure in-depth knowledge of the health care delivery system.
>
> . . . certification requirements should be made flexible to accommodate individual differences in background, preparation and needs.
>
> . . .certification programs should be offered at a variety of institutions to include community colleges, intermediate, and unified school district education programs, and the Department of Public Instruction.
>
> . . .provisions should be made for continuous certification to include further course work before initial certification; attendance at professional meetings, workshops, and inservice seminars; and work experience.
>
> . . . teachers and future teachers should be surveyed to maintain current assessment of needs in relation to certification requirements.

Rzonca (1974) contends that a factor that needs to be considered when looking at certification for Health Occupations Education is the inflexibility of current certification requirements. Evans (1971) states that regarding vocational and technical education teaching certificates:

> . . . the state typically controls the number of new certificates, which places power to control quality more in the hands of the state than in the hands of the local district. Most states refuse to certify a vocational or technical teacher until requested to do so by a school which wishes to employ him. This enables the staff of the state board of vocational education to suggest better qualified individuals who might be available. (In practice, this can be a powerful tool for conformity--you get recommended for a better job only if you are on good terms with your state supervisor). In contrast, teachers outside vocational education usually are certified upon completion of a prescribed program of study and experience. The local school district can then select from among the pool of certified applicants, some of whom may be poor indeed. Therefore, refusal to issue certificates until they are required for employment prevents formation of a pool of certified people who might be less qualified than those who could be certified later.

Evans (1971) summarizes by noting that certification of vocational teachers is usually handled by state boards of vocational education instead of by certification boards operated by state departments of education. Health Occupations requires certification as a practitioner of the subject taught or certification at the next higher level. Occupational experience for all teachers is regarded as being important, but this experience need not necessarily be in the occupation taught. Evans (1971) cites that no one really seems to know why such differences exist, although they may be related to the relative lengths of time the occupational fields have existed, and perhaps to the presumed availability of qualified teachers from the occupations.

Summary

The literature review on health occupations education revealed that teacher education has not kept pace with program expansion in the field. One of the major explanations advanced has been the traditional emphasis on occupational competence for vocational educators, with teaching competence to be developed on an inservice basis.

Present educational practices for the preparation of health occupations teachers varied. For the most however, programs in health occupations education are staffed by individuals who come directly from the health profession, with little or no preparation to qualify them as teachers.

Previous research studies on effective teacher performance cited a number of needs to be addressed if health occupations teachers are to have the competence deemed necessary. In addition to preparation and experience in the health field, a number of "competencies need to be developed which deal with instructional content and process."

With regard to certification guidelines and procedures, the literature seemed to suggest that change(s) should be considered in order to accommodate individual differences in background, preparation, and needs. To maintain current assessment of needs, a survey of present and future teachers was recommended.

In summarizing certification requirements and teaching competencies as discussed in the literature review, it is evident that the need for change has been established. There has been a call for efforts to improve health occupations teacher education as well as certification.

III

PROCEDURES

Introduction

The purpose of this study was to:

1. assess the pedagogical and andragogical needs of health occupations teachers, and
2. examine criteria for certification of health occupations educators.

This chapter describes the procedures that were followed in the preparation of the survey instrument before its distribution to participants. In addition, the data collection process is described. Figure 1 diagrams the basic approach used in the survey.

Preliminary Preparation

Development of Survey Instrument

A survey instrument was designed which would elicit data essential to achieve the objectives of this research project. The questionnaire was subsequently constructed into three parts. Part A elicited background data from participants. Part B requested information on competence needed and competence acquired for three areas: health occupations activities, instructional activities, and leadership management activities. Part C requested information for program offerings, e.g., time and meeting preferences. Before the questionnaire could be mailed to potential respondents however, several procedural paths were taken. First, the instrument was field-tested, and second, approval for use of the instrument was secured from The Pennsylvania State University Human Subjects Review Committee.

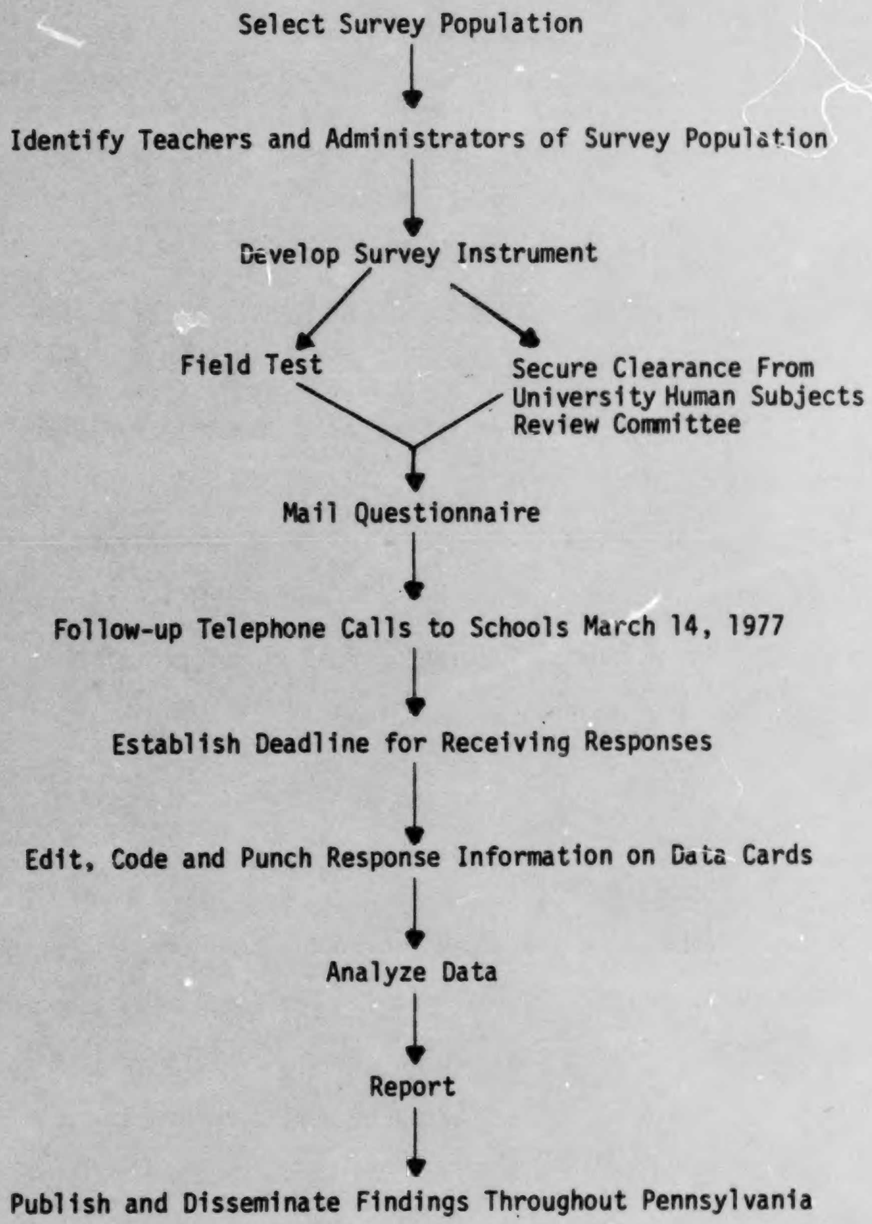

Select Survey Population
Identify Teachers and Administrators of Survey Population
Develop Survey Instrument
Field Test
Secure Clearance From University Human Subjects Review Committee
Mail Questionnaire
Follow-up Telephone Calls to Schools March 14, 1977
Establish Deadline for Receiving Responses
Edit, Code and Punch Response Information on Data Cards
Analyze Data
Report
Publish and Disseminate Findings Throughout Pennsylvania

Figure 1. Flow-Diagram for Needs Assessment Study of Health Occupations Teachers and Administrators.

The first procedure involved informal testing of the questions with respondents like those to be used in the study. For example, the questionnaire was mailed to several postsecondary health occupations education teachers in the states of Ohio and New Jersey. These teachers were asked to complete the questionnaire and to critically analyze it. Another procedure involved a more formal pilot study wherein selected health occupations teachers in a class at The Pennsylvania State University were asked to complete the questionnaire as though they were participating in the study. Following these "field-tests" some minor revisions were made in order that additional clarity in questions and instructions be established.

Clearance by Human Subjects Review Committee

The second procedure required compliance with university policy which stipulates review committee approval of all work involving the use of human subjects. Following departmental and divisional approval, the research abstract on the project (Appendix A) along with the questionnaire and transmittal letter was sent to The Pennsylvania State University Human Subjects Review Committee. Approval for the project was granted, and research subsequently proceeded.

Data Collection Process

Survey Population

Within Pennsylvania's school systems which are supported by vocational education funds, approximately 400 individuals are employed in vocational reimbursed health occupations education programs in Pennsylvania. The teachers and administrators of these programs were polled to identify their present role(s), interests and educational needs in health occupations.

Administrators in health occupations education were identified via the Vocational Education Personnel Directory published by The Pennsylvania Bureau of Vocational Education (1976-77). Since teachers were not listed in said directory, schools were telephoned and requested to either furnish names of teachers or to indicate the numbers of teachers in order that the appropriate number of survey instruments could be forwarded. The goal was to make the project all-inclusive; however, it is foreseeable that with some programs closing and others being initiated, there is a possibility that some potential respondents may have been excluded.

The survey instrument (Appendix B) accompanied by the transmittal letter which explained the intent of the survey (Appendix C), was mailed to aforementioned health occupations education personnel on February 10, 1977. The number of responses received up until the initial suggested deadline of March 11, 1977, was 197. Subsequently, follow-up telephone calls were made on March 14, 1977 to remind potential participants about the survey, and to request their responses. A total of 40 additional responses were received following the telephone calls. A total of 237 teachers and administrators responded to the survey prior to the ultimate deadline of March 25, 1977. Table 1 reflects the breakdown of respondents according to region.

Demographic Information

The first section of the survey instrument requested biographical data, plus information on education and employment. Questions 1-5 were designed to elicit information related to the person's employment . . . i.e., position, status, teaching area, type of facility, sex, and age.

Table 1

Survey Respondents

Number Polled	Number Responding Prior to Final Deadline	Percent of Responses
381	237	62.2

Region	Total Polled	Total Responding
1. Eastern	152	101
2. Central	80	45
3. Western	149	91

The questionnaire asked the respondent to check the appropriate blank. If the person checked "other" in questions 1-a, 2, or 3, space was provided to "specify" and write in his or her description.

Questions 6 and 7 requested information regarding education employment, and certification. This information was used later for correlational analysis along with educational and competency activities data. The responses were coded 1, 2, 3, 4, 5, etc. Again, spaces were provided for the respondents to check the appropriate responses and to be specific when checking "other." Question 6-b asked the respondent to check the degree(s) held and describe the type in the appropriate space. This data was used to assess the different degrees held (if any), the status of the respondent regarding educational pursuits, and the number of years of work experience in the respondent's professional field (other than teaching). The degree type responses were coded by number if the respondent held a particular degree. The other responses, including the type of degree described, were coded 1, 2, 3, 4, 5, etc. If the person held no diploma, or degree, the response was coded 0.

Questions 6-e and 6-f asked the respondent to answer only if he or she was an RN involved in working toward or having acquired a Baccalaureate degree, plus holding either an Associate Degree or hospital school diploma. This information was related to the number of credits granted toward a Baccalaureate degree, and the method of verification used by a degree-granting institution to determine the respondent's educational and professional competency. The number of credits were coded in three spaces . . . e.g., if the person had 60 credits, the coding was "060." If the respondent checked competency evaluation, and written exam, it was coded as 1, 2, etc. Competency evaluation and performance test were coded 1, 3, etc. The last 3 entries in 6-f pertaining to grade transcripts, licensure, and "other" were coded 1 if checked.

Question 7 (a-f) was designed to assess the various areas dealing with certification of health occupations education teachers: type, program area, adequacy of guidelines and procedures, specific courses, changes, and educational institution where respondent plans to receive certification. These areas were coded 1, 2, 3, 4, 5, etc. All respondents were asked to answer question 7 (a): "Type of teaching certificate held." Questions 7 (b, c, d, e, and f) were to be answered only if the respondent was presently certified or involved in taking courses toward certification. The information received in this area was correlated with employment and educational information.

Qualitative Data

The second section of the questionnaire was structured to educe information relative to various competency areas. The final section requested information regarding course and time preferences for offerings in health occupations teacher education programs.

Competency areas were designed to obtain information pertaining to Health Occupations, Instructional, and Leadership Management activities. The questionnaire asked respondents to check the degree to which they felt competence was needed in Column A and the degree to which they already felt competent in Column B. Therefore, there were two responses to each item. The "degree of competence" columns were labeled NO, SLIGHT, MODERATE, CONSIDERABLE, and COMPLETE. The total number of each "competence acquired" column added longitudinally was multiplied by 1 for NO, 2 for SLIGHT, 3 for MODERATE, 4 for CONSIDERABLE, 5 for COMPLETE. This information was then correlated with employment, education, and certification information.

The last section was designed to gather information from respondents regarding their interest in participating in health occupations teacher education programs. They were asked their preference(s) with regard to course offerings, time and meeting schedules, and distance they would be willing to travel to attend such classes. All these areas were coded 1, 2, 3, 4, 5, etc. Any additional comments and/or suggestions could be written in space provided. This section's information was then correlated with other information obtained from educational, employment, and certification areas of the questionnaire.

IV

DATA ANALYSIS

Statistical Package for the Social Sciences

The Computation Center of The Pennsylvania State University was used to process the data obtained in this study. The data was analyzed using the program "Statistical Package for the Social Sciences" (SPSS, 1975). Two sub-programs were used to obtain the necessary information. Sup-program "frequencies" was used to obtain the frequency percentage, and mean scores of responses to variables. The sub-program "cross-tabs" was used on selected variables to identify how responses on one variable compared with responses of the same individuals on another variable.

Findings

Introduction

The manner and style used in reporting the results of this study will follow the general format of the survey questionnaire. To expedite and enhance clarity and comprehension, data is presented in tabular and graphic form wherever possible. It is trichotomized into general areas: 1) Background Data on Participants, 2) Competency of Health Occupations Teachers and Administrators, and 3) Information for Program Offerings. Cross tabulations have also been made of items within as well as between areas for comparison and analysis; these have been incorporated at various points throughout this chapter.

Background Data on Participants

As stated previously there were 237 respondents to the survey. Although the majority (228) of this number identified themselves as either teachers or coordinators, those who did not, were, for the purposes of this study, categorized into one of two position titles: teacher or administrator. This number is reflected in Table 2.

Table 2

Numbers of Respondents According to Position Title

Position	Frequency
Teachers	197
Administrators	40
Total	237

Most of the participants were employed full-time. Some teachers who checked their employment status as "part-time" stated they were substitute teachers or clinical instructors. Employment status is represented below in Table 3.

Table 3

Employment Status of Respondents

Employment Status	Percentage
Full-time	86.9
Part-time	9.3
No Response	3.8
Total	100.0

As revealed in the Borkovich and Welch (1975) study, leadership in health occupations education in Pennsylvania is dominated by females. This study confirms those findings. The percentage of respondents according to sex is shown in Table 4.

Table 4

Sex of Respondents

Sex	Percentage
Female	98.7
Male	1.3
Total	100.0

Tables 5 and 5a which have been extracted from the Digest of Educational Statistics (1975), clearly reveal the growth patterns of vocational programs in the United States. A careful analysis of these tables will reveal the steady increase in the number of health occupations education programs, accompanied by a corresponding increase in the number of teachers.

Pennsylvania parallels these national trends. It is especially interesting to note that since the inception of health occupations education, there has been a far greater number of postsecondary and adult programs, contrasted with fewer numbers of secondary programs. Table 6 identifies the number of individuals employed in various educational facilities of the commonwealth.

Table 5*

Enrollment in Federally Aided Vocational Education Classes, by Level and by Type of Program: United States and Outlying Areas, Fiscal Years 1964 to 1974

Level and Type of Program	1964	1966	1968	1970	1972	1973	1974	Percent Change 1973-1974
All programs	4,566,390	6,070,059	7,533,936	8,793,960	11,710,767	12,283,538	13,794,512	12.3
Health	59,006	83,677	140,987	198,044	336,652	421,075	504,913	19.9
Secondary	5,478	7,973	20,952	31,915	59,466	75,596	103,780	37.3
Postsecondary	41,038	36,496	64,595	102,515	177,466	192,612	228,180	18.5
Adult	12,490	37,065	62,865	63,614	99,720	152,867	172,953	13.1
Special Needs	--	323	2,578	23,130	54,405	--	--	--
Home Economics	2,022,138	1,897,670	2,283,338	2,570,410	3,445,698	3,516,683	3,516,683	5.3
Secondary	1,308,453	1,280,254	1,558,004	1,934,059	2,630,997	2,687,166	2,877,069	7.1
Postsecondary	1,652	2,652	4,395	44,259	68,604	68,077	71,590	5.2
Adult	712,033	602,363	677,476	592,092	746,097	761,440	754,025	-.1
Special Needs	--	12,401	43,461	259,591	733,968	--		--
Technical	221,241	253,838	269,832	271,730	337,069	364,044	392,887	7.9
Secondary	20,755	28,865	36,286	34,386	38,820	38,545	40,736	5.7
Postsecondary	71,824	100,151	104,746	151,621	189,468	201,173	231,378	15.0
Adult	128,662	124,730	127,418	85,723	108,781	124,326	120,764	-.3
Special Needs	--	92	1,382	15,928	31,951	--	--	--

*Source: Digest of Educational Statistics, Dept. of HEW, 1975

Table 5a*

Teachers of Federally Aided Vocational Education Classes, by
Type of Program: United States and Outlying Areas,
Fiscal Years 1970 to 1974

Type of Program	1970	1971	1972	1973	1974
1	2	3	4	5	6
	Number of teachers				
Total	190,364	211,550	235,658	243,514	266,220
Agriculture	12,420	12,910	13,270	13,812	14,943
Distributive	10,458	11,974	13,795	14,804	16,505
Health	10,483	12,613	14,552	16,780	19,505
Home economics	34,225	38,105	41,547	44,678	47,326
Office	45,081	49,363	52,662	54,917	58,153
Technical	14,241	14,750	16,320	13,658	14,936
Trades and industry	56,720	59,065	65,105	70,848	74,314
Other or unclassified	6,736	12,770	17,907	14,017	20,538

*Source: Digest of Educational Statistics, Dept. of HEW, 1975

The distribution of staff by various program areas is presented in Table 7. A predominance of postsecondary programs is evidenced in the great numbers of personnel involved in Practical Nursing (PN) as shown by this table. In addition, consistent with the findings of Borkovich and Welch (1975), health assistant programs continue to grow and expand, employing the largest number of health occupations education staff at the secondary level.

Under the program area listed as "nursing," various categories of nursing curricula have been clustered. Therefore, instructors and coordinators who indicated that they were involved in nursing programs other than Practical Nursing have been so grouped. Programs in this category as identified by respondents included: PN--Associate Degree Nursing (ADN), RN--ADN, "Nursing," and Career Ladder Nursing.

Table 6

Type of Educational Facility(s) Where Health Occupations Education Personnel are Employed

Facility	Frequency	Percentage
*AVTS, Postsecondary Level	77	32.5
AVTS, Secondary Level	74	31.2
Community College	44	18.6
Comprehensive High School	13	5.5
AVTS, Adult Level	11	4.6
Postsecondary and Secondary	6	2.5
Trade School	4	1.7
AVTS Secondary and Adult Levels	3	1.3
No Response	5	2.1
Totals	237	100.0**

*AVTS--Area Vocational Technical School

**Total - may equal 100 percent because of rounding error

There were no respondents who indicated their affiliation with a medical lab assistant program, even though the Borkovich-Welch Study revelaed the existence of such programs and plans to initiate at least one additional program.

Since at least 11 respondents indicated their involvement in more than one teaching area, these have been classified as "Combinations." At least one-half of this group was involved in either a Health Assistant or Medical Assistant Program in addition to at least one other program. Some "combinations" identified were:

Table 7

Distribution of Health Occupations Education Staff by Program Area

Program Area	Frequency	Percent
Dental Assistant	16	6.8
Health Assistant	37	15.6
Home Related Technology	1	0.4
Home Health Management	5	2.1
Medical Assistant	8	3.4
Medical Lab Assistant	--	--
Nursing Assistant	8	3.4
Practical Nursing	129	54.4
**Nursing	17	7.2
Medical Technology	1	0.4
Dental Technology	1	0.4
***Combinations	11	4.4
No Response	3	1.3
Totals	237	*99.8

*Totals may not equal 100 percent because of rounding

**Nursing explained on previous page

***Combinations defined on next page

Home Health Management/Practical Nursing

Nursing Assistant/Practical Nursing

Home Health Management/Home Economics

Dental Assistant/Health Assistant/Medical Assistant

Dental Assistant/Health Assistant/Medical Assistant/Nursing Assistant

Various other "combinations" appear in Figure 2.

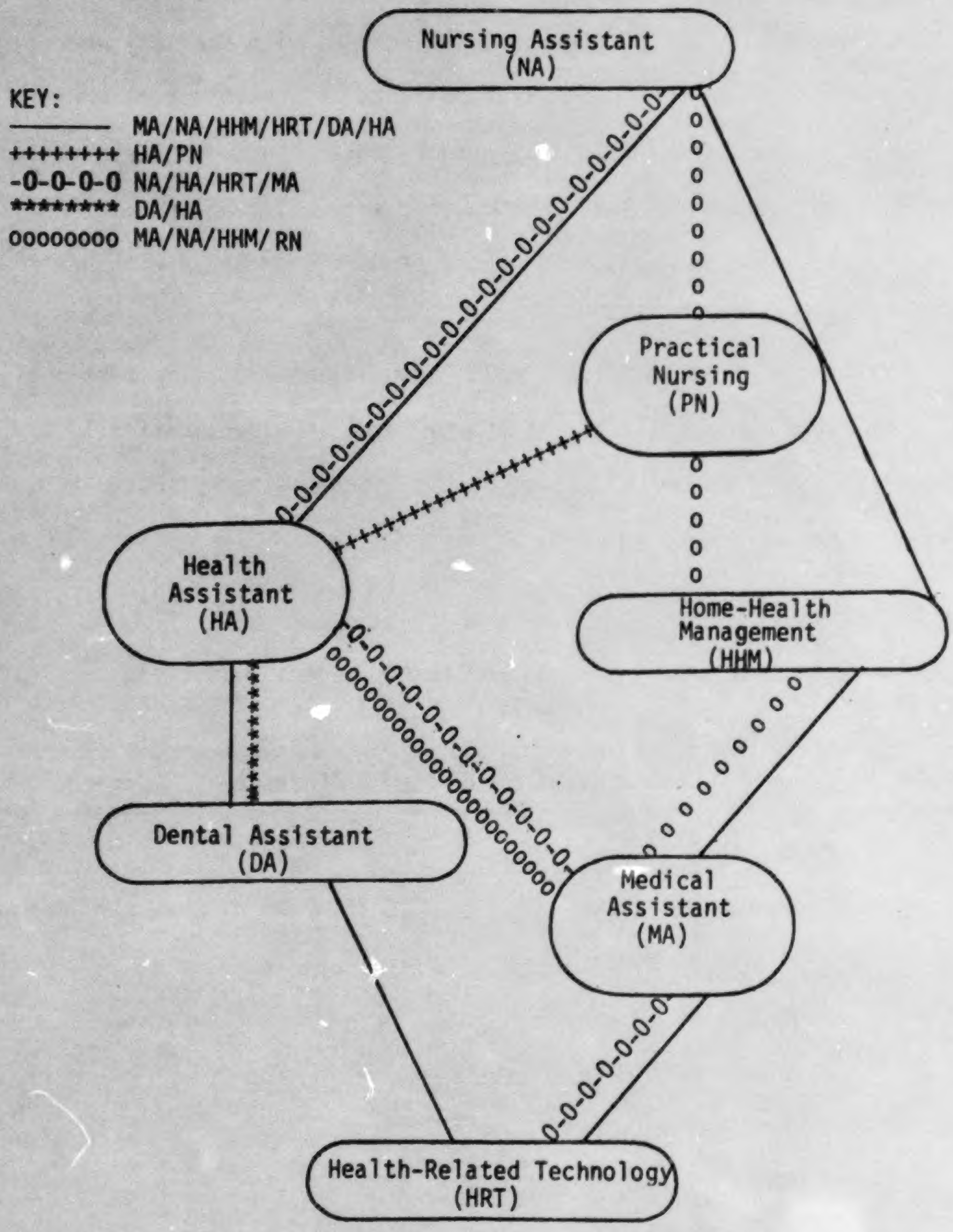

KEY:
———— MA/NA/HHM/HRT/DA/HA
++++++++ HA/PN
-0-0-0-0 NA/HA/HRT/MA
******** DA/HA
oooooooo MA/NA/HHM/ RN
Nursing Assistant (NA)
Practical Nursing (PN)
Health Assistant (HA)
Home-Health Management (HHM)
Dental Assistant (DA)
Medical Assistant (MA)
Health-Related Technology (HRT)

Figure 2. Various Combinations of Teaching Areas for Some Health Occupations Education Staff.

Teaching Area/Facility

A cross-tabulation of present teaching area with facility where employed revealed that 33 percent of respondents (highest number) were employed in area vocational-technical schools at the postsecondary level. Approximately 95 percent of these respondents were involved in Practical Nursing programs, and the remaining 5 percent were associated with Dental Assisting programs.

The next highest number of health occupations education personnel (32 percent) were employed at the secondary level in area vocational technical schools: The percentage of such respondents as reflected by program area are reflected in Table 8.

Table 8

Percentage of Respondents Employed at the Secondary Level in Area Vocational Technical Schools According to Program Area

Respondents	Percent
Health Assistant	42
Dental Assistant	16
Practical Nursing	12
Medical Assistant	10
Home Health Management	20
Nursing Assistant	20
Health Related Technology	20
Other Combinations	20

Approximately 19 percent of respondents in Health Occupations programs were employed at the Community College level. Here, Practical Nursing programs emerged as the teaching area having greatest number of health occupations teachers.

Table 9 illustrates the distribution of the number of respondents according to area of teaching and facility where employed.

Age

The mean age of respondents was found to be 41-45 years. This is slightly lower than Borkovich and Welch (1975) estimates of the average age being close to 50 years. It must be noted however that the Borkovich-Welch study focused only on secondary health occupations education teachers, whereas this study includes teachers in postsecondary and community college health occupations education programs as well.

The graphic illustration of respondents' ages presented in Figure 3 closely resembles a "bell-shape." It is interesting to note that there were 14 respondents at both "ends" of the age continuum . . . e.g., 7 under 25 years, and 7 over 60 years.

Education and Employment Background

These findings pertain to the section of the questionnaire which asked respondents to supply information relative to their current educational attainment and/or pursuit, and background data related to employment experiences in health occupations.

Diplomas

A large number of respondents (195) said they had RN diplomas, and 2 respondents had diplomas in the field of Dental Hygiene. It is

Table 9

Number of Respondents Employed in Various Teaching Areas Within Various Facilities
N = 231

Teaching Area	Area Vocational Technical School				Community College	Comprehensive High School	Trade School	Post-Secondary High School	Education for Retar-ded . . . Secondary Level
	Secondary Level	Post-Secondary Level	Adult Level	Secondary and Adult Level					
Practical Nursing	--	73	10	1	25	3	1	4	0
Health Assis-tant	31	0	1	1	0	3	1	0	0
Dental Assis-tant	12	3	0	0	0	0	0	1	0
Medical Assis-tant	7	0	0	0	0	1	0	0	0
Nursing Assis-tant	3	0	0	0	0	4	1	1	0
Home Health Manage-ment	5	0	0	0	0	0	0	0	0
Nursing	0	0	0	0	17	0	0	0	0
Total	58	76	11	2	42	11	3	6	0

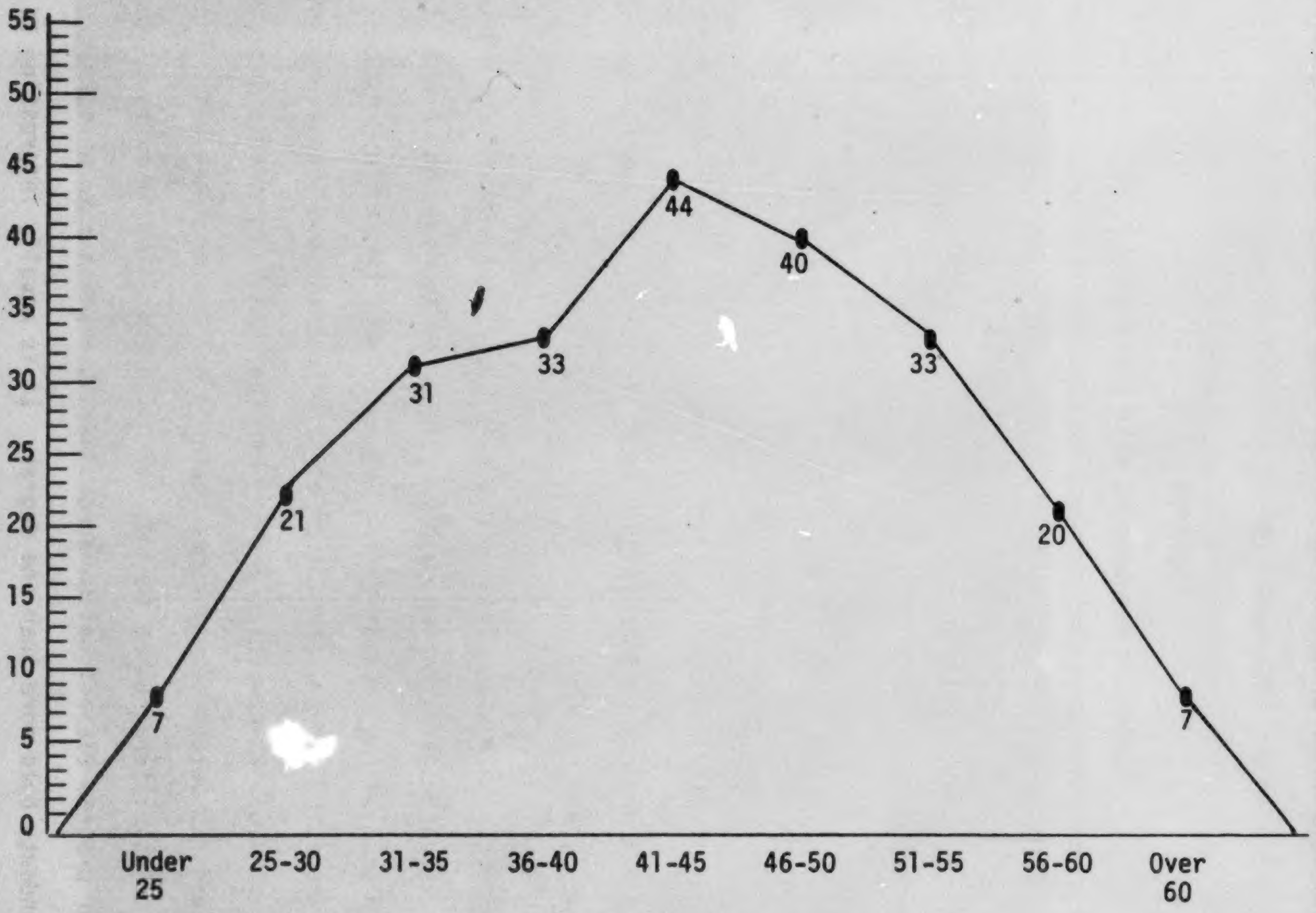


Figure 3. Age of Respondents

possible that the large number of respondents who indicated they had an RN diploma may have resulted from their interpreting question 6-a to include all educational programs rather than just hospital school diploma programs. Table 10 presents responses to diplomas earned.

Table 10

Number of Respondents with Diplomas

Diploma	Number of Respondents
RN	195
Dental Hygiene	2
None	7
No Response	33
Total	237

A bell-shaped frequency polygon (Figure 4) indicates RN respondents holding diplomas by age category.

Degrees. When asked type of degree(s) held, the respondents chose Associate, Baccalaureate, Master's, Doctorate or no degree, and described the particular type for each different degree. Three percent of respondents had Associate degrees, and the greatest percentage had Baccalaureate degrees . . . i.e., 69 percent. Twenty-seven percent had Master's Degrees, and less than 1.0 percent (only 2 respondents) had Doctoral degrees. The findings in Table 11 represent the educational preparation of respondents in the four program classification areas. It is important to note that many respondents hold more than one degree. It is equally interesting to note the diversity of degree types held by health occupations education personnel.

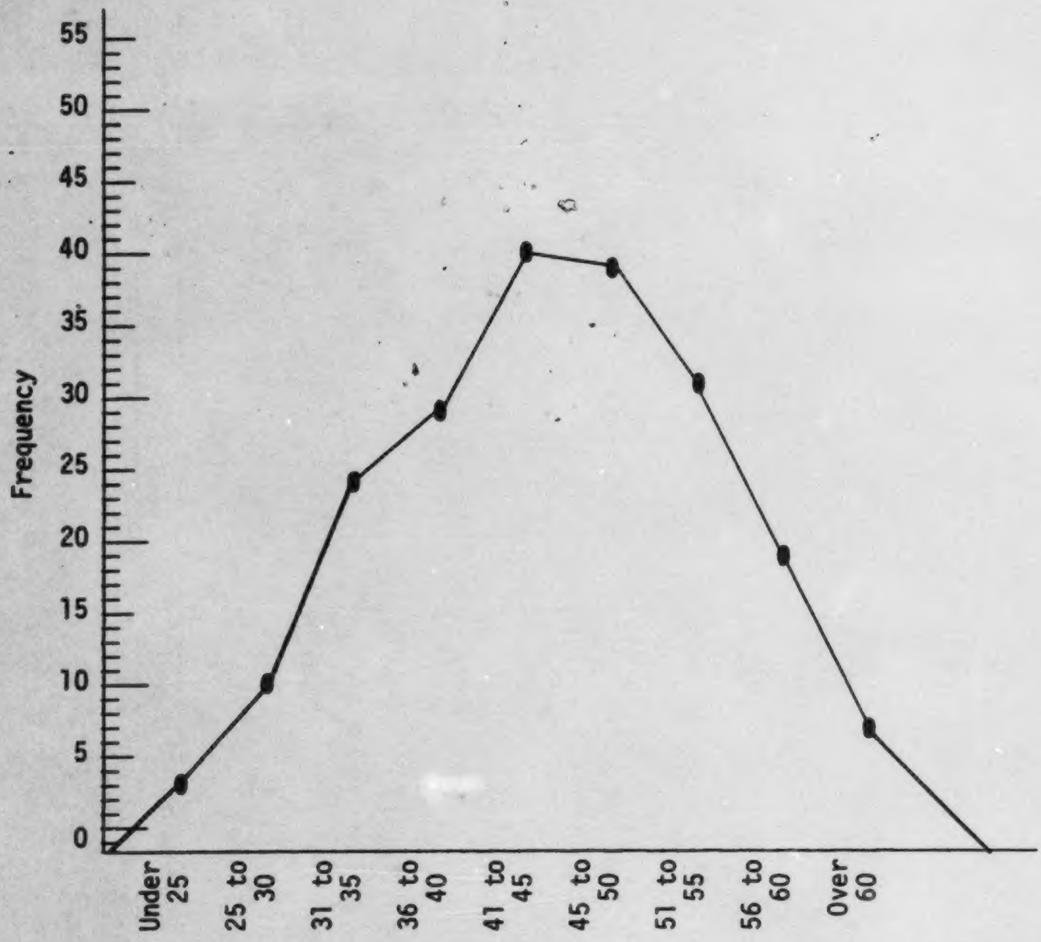


Figure 4. Comparison of Number of Respondents Who Earned RN Diplomas by Age.

Table 11

Number and Percentage of Responses to Types of Degrees Held

Types of Associate Degrees (n=7)			Types of Baccalaureate Degrees (n=151)			Types of Master's Degrees (n=61)			Types of Doctorate Degrees (n=2)		
	Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage
Science	2	33.3	Science in Nursing Education	25	16.6	Science in Education	21	33.9	Education	2	100.0
Community Science	1	16.7	Science in Welfare	1	0.7	Science in Nursing	4	6.5	None	235	--
Nursing	1	16.7	Science in Nursing	53	35.1	Science in Nursing Education	3	4.8			
Registered Dental Hygienist	2	33.3	Home Economics	3	2.0	Arts	2	3.2			
None	231	--	Science	16	10.6	Science in "GEPT"*	1	1.6			
			Science in Education	43	28.5	Arts in Psycology--Counseling	6	9.7			
			Science in Public School Nursing	6	4.0	Education	16	25.8			
			Arts in School Nursing-Health Education	1	0.7	Master's Equivalent	9	14.5			
			Arts	3	2.0	None	175	--			
			None	86	--						
Total	237	100.0	Total	237	100.0	Total	237	100.0	Total	237	100.0

*"GEPT" - respondent failed to supply meaning of this abbreviation

Diplomas/Degrees

An interesting comparison is demonstrated in Table 12 below. In addition to the number of respondents who have earned diplomas, it also reflects the number of respondents with nursing school diplomas who hold a baccalaureate and/or master's degree as well.

Table 12

Diploma(s) and Degree(s) Earned by Respondents

Type of Diploma(s)	Diplomas Earned	Degrees Earned Baccalaureate	Masters
RN	195	140	58
Other	2	2	1

Degrees/Position

Further comparison was made between type of degree held according to position title (see next page). As indicated previously, although some participants identified themselves by titles other than teacher or coordinator, for purposes of this study, participants have been categorized under one of these two titles. One must also keep in mind the fact that a number of participants have more than one degree. For example, findings showed that three respondents with associate degrees hold baccalaureate degrees as well. It is also important to note that the number of respondents with various degree types represented in Tables 11 and 13 may not correspond. This is because some respondents failed to answer both sections of the question regarding degree(s): 1) whether or not a degree was held, and 2) the specific type of degree (BSEd, BSN, etc.) held. Not all respondents holding a degree indicated the type of degree held. Table 13 shows this comparison of types of degrees held by respondents.

Table 13

Type of Degrees Held by Respondents

Position Title	Associate N=7	Baccalaureate N=166	Master's N=65	Doctorate N=2
Teacher	7	127	42	1
Coordinator	--	39	23	1

Degrees/Age

A breakdown of respondents holding degrees by age category is demonstrated in Table 14.

Table 14

Degree(s) Held by Health Occupations Education Personnel Expressed in Percentage According to Age Category

Age Category	No Degree N=19	*[a]A-Degree N=7	*[b]B-Degree N=16	*[c]M-Degree N=63	*[d]D-Degree N=2
Under 25	5.3	--	2.6	--	--
25-30	21.1	16.7	7.3	3.3	--
31-35	21.1	--	14.6	14.8	--
36-40	10.5	16.7	12.6	13.1	--
41-45	21.1	16.7	16.6	13.1	--
46-50	15.8	33.3	18.5	21.3	50.0
51-55	5.3	16.7	17.9	19.7	50.0
56-60	--	--	7.9	9.8	--
Over 60	--	--	2.0	4.9	--

*[a]A - Associate Degree

*[b]B - Baccalaureate Degree

*[c]M - Master's Degree

*[d]D - Doctoral Degree

Educational Pursuits

Regarding respondents' current status in educational pursuits, 59 percent said they were working toward degrees, certification, or were adjunct students. Only 1 percent were involved in continuing education, and 39 percent were not presently involved in a program of studies

Table 15 provides findings related to educational pursuits of respondents.

Table 15

Educational Pursuits of Respondents

Educational Pursuit	Number of Respondents	Percent of Respondents
Working Toward Degree	83	35.0
Working Toward Certification	28	11.8
Adjunct or Non-Degree	9	3.8
Not involved in Program of Studies	89	37.6
Continuing Education	3	1.3
Working Toward Certification in School Psychology	1	0.4
Working Toward Degree and Certification	12	5.1
Working Toward Certification and Non-Degree Status	1	0.4
No Response	11	4.6
Total	237	100.0

Educational Pursuit/Degree

A comparison of number of respondents with Associate and/or Baccalaureate degrees by current status regarding educational pursuits is presented in Table 16.

Table 16

Number of Respondents with Associate and/or Baccalaureate Degrees by Educational Pursuits

Educational Pursuit	Number of Respondents with: Associate Degree	Baccalaureate Degree	Master's Degree
Working Toward a Degree	2	46	12
Working Toward Certification	2	17	7
Adjunct or Non-degree Student		6	4
Not involved in Program of Studies	1	71	34
Continuing Education		2	1
Working Toward Certification in School Psychology		1	1
Working Toward a Degree and Certification	1	1	

Educational Pursuit/Age

For further comparison, respondents' current status regarding educational pursuits was cross-tabulated with the nine different age groups. These findings are shown in Table 17.

Work Experience in the Field of Health Occupations

The mean number of years of work experience in health occupations (other than teaching) was 6 to 12 years. The polygon graph (see accompanying Figure 5) presents a frequency distribution of work experience of respondents in the field of health occupations other than teaching.

Table 17

Respondents' Status Regarding Educational Pursuits by Age

Educational Pursuits	Age Groups N = 227								
	Under 25	25-30	31-35	36-40	41-45	46-50	51-55	56-60	Over 60
Working toward a degree	4	9	14	14	16	10	9	5	2
Working toward certification	2	3	3	1	7	7	3	2	0
Adjunct or Non-Degree	0	0	0	0	1	3	3	2	0
Not involved in Program of Studies	1	9	11	14	14	16	14	7	4
Continuing Education	0	0	0	0	0	0	2	1	0
Working toward Certification in School Psychology	0	0	0	0	0	1	0	0	0
Working toward a degree and certification	0	1	3	2	4	2	0	0	0
Non-degree and working toward certification	0	0	0	0	0	1	0	0	0

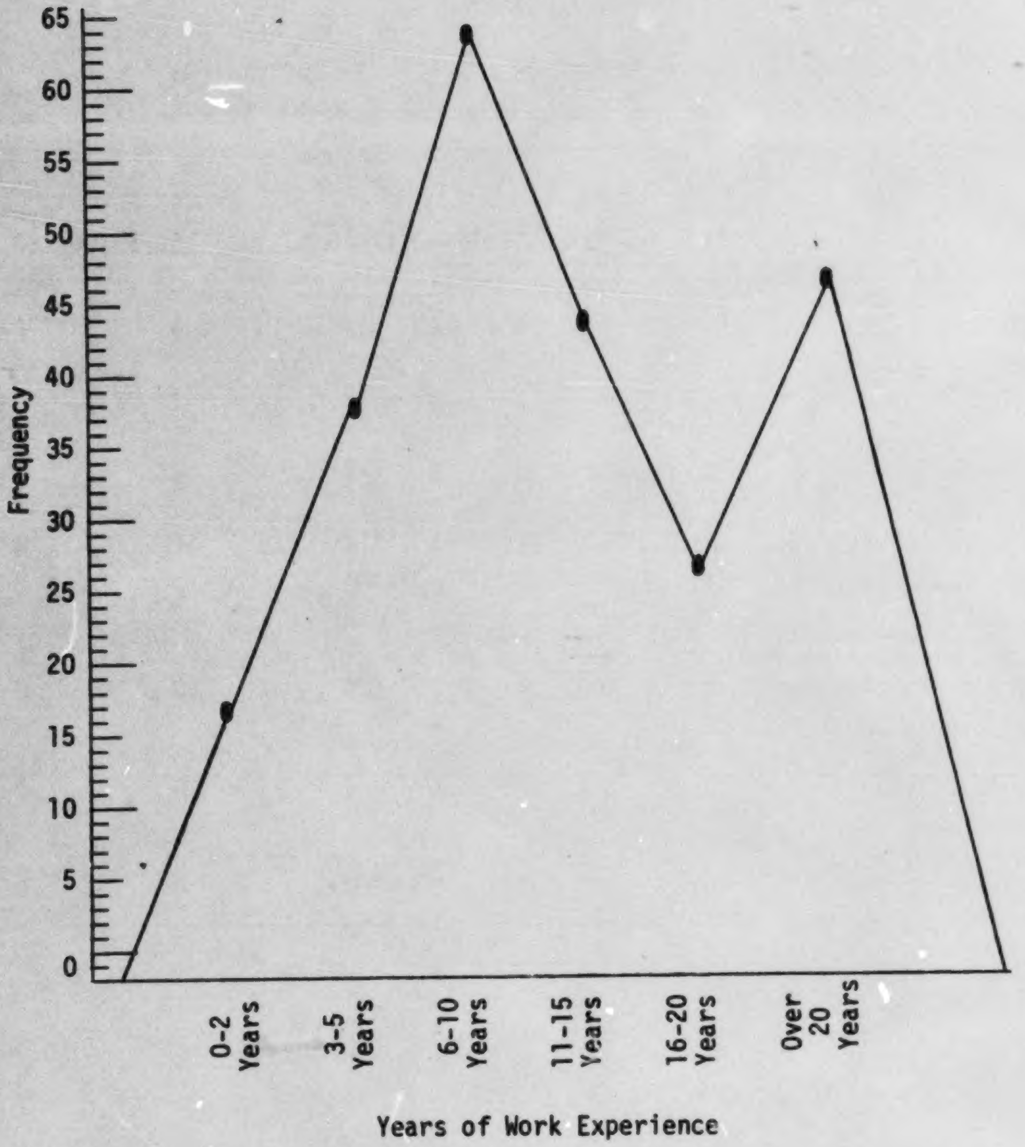


Figure 5. Respondents' Years of Work Experience in Field of Health Occupations other than Teaching.

Work Experience/Degree

Work experience in health occupations education was compared with degrees held by respondents. Table 18 presents an overview of this comparison.

Table 18

Work Experience in Health Occupations Field by Degrees Held

Years of Work experience in Health Occupations Other Than Teaching	Associate Degree	Baccalaureate Degree	Master's Degree	Doctoral Degree
0-2 years	--	10	3	1
3-5 years	3	25	6	--
6-10 years	2	36	15	--
11-15 years	--	29	11	--
16-20 years	1	18	7	1
Over 20 years	--	30	18	--

Credits Granted Toward Baccalaureate Degree and Methods of Verification of Educational and Professional Competence

Registered Nurses who were working toward or had acquired a Baccalaureate degree, also held either an Associate degree or hospital school diploma were asked to respond to the following questions (A and B).

A. "How many credits have you been granted toward a Baccalaureate degree?"

The mean number of credits for the 111 health occupations education personnel who responded to this question was 62.55. The number of credits granted toward a baccalaureate degree ranged between 21 and 144. Because of this considerable range, one must suspect that the question may have been interpreted to mean the total number of credits required or acrued for this degree. One participant remarked that she was only given credit for "courses taught by university professors, nothing else." Also, several respondents remarked that they were unsure of the number of credits received toward a baccalaureate degree. Credits that were granted to respondents with Associate, Baccalaureate, or no degree are presented in Table 19.

B. "What method(s) was used by the degree granting institution to verify educational and professional competence?"

There were a total of 270 responses to this question. The fact that some respondents indicated more than one method of verification must not be overlooked. Various methods used to verify competence as identified by respondents are given below. The "other" category takes into account methods not listed but experienced by individual respondents. These include: "verification from diploma school," "references from previous teaching experiences," "self-evaluation," and "interview and dossier of my learned experiences." These responses are classified in Table 20.

For further comparison, the methods used to verify competence were cross-tabulated with respondents holding Associate and/or Baccalaureate Degrees as shown in Table 21.

Certification

In response to type of teaching certificate(s) held, the greater majority of participants (37.4 percent) answered "none." In reviewing this figure, one must keep in mind the large percentage of practical nursing instructors (postsecondary health occupations education participants) who at this particular time are not required to be certified in Pennsylvania.

Table 19

Credits Granted Respondents Toward Degrees

Number of Credits	Number of Respondents with Associate Degree	Number of Respondents with Baccalaureate Degree	No *Degree
0-21		1	1
24		1	2
26			1
30		3	
31		1	
32		2	
36		1	
38		1	1
39		1	
40		1	
42		1	1
44		1	
45		4	
47			1
48		3	1
49		1	
50		3	
54		1	
55		1	
56		2	
60		22	
62		1	
64		4	
68		7	1
73			1
94	1		
97	1		
100	1		
118			1
120		1	
122		1	
126		1	
128		1	
132		2	
136		2	
144	1		1

*Includes respondents working toward a degree

Table 20

Types of Methods Used by Degree Granting Institutions to Verify Educational and Professional Competence

Methods of Verification of Competence	Number of Responses
Competency Evaluation:	18
Written Exam	25
Performance Test	2
Written Exam and Performance Test	10
Other	3
Grade Transcripts from Previous Institutions	108
Licensure	97
Other	7

Table 21

A Comparison of Methods Used to Verify Educational and Professional Competence by Number of Respondents Holding Associate and/or Baccalaureate Degrees

	Degrees	
Methods	Associate	Baccalaureate
Competency Evaluation:	--	9
Written Exam	--	19
Performance Test	1	1
Written Exam and Performance Test	--	7
Other	--	2
Grade Transcripts	2	79
Licensure	4	63

Some respondents indicated their having more than one type of teaching certificate. The number and percentage of respondents who have teaching certificates of various types is reflected in Table 22.

Table 22

Number and Percentage of
Types of Teaching Certificates Held by Respondents

Types of Teaching Certificates	Number	Percentage
None	74	37.4
Vocational Intern	11	5.6
Vocational Instructional I (Provisional)	32	16.2
Vocational Instructional II (Permanent)	16	8.1
Instructional I (Provisional)	6	3.0
Instructional II (Permanent)	22	11.1
Coordinator of Vocational Education I	3	1.5
Coordinator of Vocational Education II	2	1.0
Education Specialist I	6	3.0
Education Specialist II	6	3.0
Supervisory I		
Supervisory II		
Administrative I		
Administrative II		
Cooperative Education Instructor Endorsement		
Instructional II, Education Specialist I, Cooperative Education Instructor Endorsement	1	0.5
Instructional II, Coordinator of Vocational Education I	1	0.5
Coordinator of Vocational Education I, Education Specialist I	1	0.5
Vocational-Instructional II, Coordinator of Vocational Education I	1	0.5
Instructional II, Education Specialist I, Guidance and Counseling	1	0.5
Vocational Instructional I, Education Specialist I	3	1.5
Vocational Intern Certificate, Counseling	1	0.5
Vocational Intern Certificate, Education Specialist I	2	1.0
Vocational Instructional II, Education Specialist II	1	0.5
Instructional II, Coordinator of Vocational Education II	1	0.5
Vocational Instructional II, Cooperative Education Instructor Endorsement	2	1.0

Table 22--Continued

Types of Teaching Certificates	Number	Percentage
Vocational Instructional II, Instructional II, Coordinator of Vocational Education II, Education Specialist II, Cooperative Education Instructor Endorsement	1	0.5
Vocational Instructional I, Coordinator of Vocational Education I, Supervisory I, Cooperative Education Instructor Endorsement	1	0.5
Education Specialist I, Emergency	1	0.5
Vocational Intern, Vocational Instructional I	1	0.5
Vocational Instructional II, Instructional II	1	0.5
No Response	39	--
Total	237	100.0

Teaching Certificate/Program Area. Findings pertaining to number and percentage of respondents certified to teach according to program area of health occupations appears in Table 23. For further comparison, the various health occupations education program areas were cross-tabulated with type of teaching certificates held by respondents. This appears in Table 24.

Teaching Certificate/Degree and/or Diploma. Another interesting comparison was the number of respondents holding diplomas and/or Associate, Baccalaureate, or Master's degrees in addition to a teaching certificate. This is represented in Table 25.

In order to gain some perception of respondents' thoughts and feelings regarding present certification regulations and procedures, those holding teaching certificates or taking courses toward certification were asked to respond to the following questions:

Table 23

Number and Percentage of Respondents Holding Teaching Certificates According to Program Area of Health Occupations

	Number	Percentage
None	14	12.8
Dental Assistant	12	11.0
Dental Laboratory Technician	1	0.9
Health Assistant	30	27.5
Medical Assistant	4	3.7
Medical Laboratory Assistant	1	0.9
Nurse's Aide	5	4.6
Practical Nursing (Discontinued; Applies only to individuals issued college certificates prior to change in requirements)	21	19.3
Radiologic Technologist	--	--
Health Assistant, Nurse's Aide	3	2.8
Nurse's Aide, Practical Nursing (Discontinued)	2	1.8
Health Assistant, Practical Nursing (Discontinued)	3	2.8
Dental Hygiene	2	1.8
Health and Medical Assistant	2	1.8
Health and Medical Assistant, Nurse's Aide	3	2.8
Health Assistant, Cooperative Education	1	0.9
Health and Medical Assistant, Nurse's Aide, Practical Nursing (Discontinued)	1	0.9
Home Health Management (Emergency Certificate)	1	0.9
Dental, Health, and Medical Assistant, Nurse's Aide	1	0.9
Health and Medical Assistant, Cooperative Education	1	0.9
School Psychologist	1	0.9
No Response	128	--
Total	237	100.0

Table 24

Number of Respondents Certified to Teach in Program Area of Health Occupations and Type of Teaching Certificate Held

Type of Teaching Certificate Held	None	Dental Assistant	Dental Laboratory Technician	Health Assistant	Medical Assistant	Medical Laboratory Assistant	Nurse's Aide	Practical Nursing (Discontinued)	Radiological Technician	Other
None	11	0	0	0	1	0	0	0	0	0
Vocational Intern Certificate	0	2	1	6	0	0	0	0	0	1
Vocational Instructional I (Provisional)	0	8	0	13	2	0	2	2	0	2
Vocational Instructional II (Permanent)	0	2	0	3	1	0	2	2	0	3
Instructional I (Provisional)	1	0	0	1	0	0	0	0	0	0
Instructional II (Permanent)	1	0	0	3	0	0	0	7	0	2
Coordinator of Vocational Education I	0	0	0	0	0	0	0	1	0	1
Coordinator of Vocational Education II	0	0	0	0	0	0	0	0	0	1
Education Specialist I	0	0	0	0	0	0	0	2	0	0
Education Specialist II	1	0	0	0	0	0	0	0	0	1
Supervisory I	--	--	--	--	--	--	--	--	--	--
Supervisory II	--	--	--	--	--	--	--	--	--	--

Table 24 --Continued

Type of Teaching Certificate Held	None	Dental Assistant	Dental Laboratory Technician	Health Assistant	Medical Assistant	Medical Laboratory Assistant	Nurse's Aide	Practical Nursing (Discontinued)	Radiological Technician	Other
Administrative I	--	--	--	--	--	--	--	--	--	--
Administrative II	--	--	--	--	--	--	--	--	--	--
Cooperative Education Instructor Endorsement	--	--	--	--	--	--	--	--	--	--
Other	0	0	0	4	0	1	1	0	0	7

Table 25

Comparisons of Number of Respondents Who Hold Diplomas and/or Degrees and Also Teaching Certificates

Type of Teaching Certificate Held	Diploma	Degrees		
		Associate	Baccalaureate	Masters
None	66	2	48	10
Vocational Intern	10	--	3	--
Vocational Instructional I (Provisional)	24	3	12	3
Vocational Instructional II (Permanent)	15	--	10	7
Instructional I (Provisional)	5	--	4	1
Instructional II (Permanent)	21	--	20	11
Coordinator of Vocational Education I	3	--	2	1
Coordinator of Vocational Education II	2	--	1	2
Education Specialist I	6	--	6	3
Education Specialist II	4	--	5	2
Supervisory I	--	--	--	--
Supervisory II	--	--	--	--
Administrative I	--	--	--	--
Administrative II	--	--	--	--
Cooperative Education Instructor Endorsement	--	--	--	--
Other (Combination of above)	15	1	14	8

A. How do you perceive the adequacy of certification guidelines and procedures as presently established for health occupations teachers and administrators?

B. As compared to other courses and educational experiences, how would you rank the importance and relevance of courses taken specifically for certification?

C. What type of change(s), if any, in the certification of health occupations teachers do you think deserve(s) consideration?

D. From what institution did you receive or do you plan to receive certification?

Regarding the adequacy of certification guidelines and procedures (Question A) 130 respondents perceived this classification as shown in Table 26.

Table 26

Adequacy of Certification Guidelines and Procedures According to Respondents

	Number of Responses
Very Adequate	10
Adequate	48
Somewhat Adequate	28
Inadequate	44
Total	130

In ranking the importance and relevance of courses taken specifically for certification (Question B), participants responded as classified in Table 27.

Table 27

Importance and Relevance of Courses Taken for Certification as Perceived by Respondents

	Number of Responses
Most Definitely Important	14
Important	34
Somewhat Important	40
Of Little Importance	30
Of No Importance	6
Total	124

With respect to type of change(s) thought to be necessary in the certification of health occupations teachers (Question C), the following responses presented in Table 28 were obtained.

Table 28

Respondents Attitudes Regarding Changes in Certification of Health Occupations Teachers

	Number of Responses
More Flexible Requirements	40
Less Flexible Requirements	5
More State Control	5
Less State Control	4
Movement Toward Performance-based Model	21
Movement Away from Performance-based Model	--
No Change Needed	13
Total	88

In identifying the institution from which they received or planned to receive certification (Question D) participants responded as illustrated in Table 29.

Table 29

Institutions Granting Certification to Respondents

	Number of Responses
Temple University	40
University of Pittsburgh	28
The Pennsylvania State University	26
Marywood College	2
Univ. of Pennsylvania	2
Lehigh University	2
Geneva College	1
Elizabethtown College	1
University of Indiana, PA	3
Duquesne University	2
Edinboro	2

Other institutions identified were Slippery Rock, State College, Westminister College, and Montclair State College.

For further analysis, questions A, B, and C (page 64) were cross-tabulated with health occupations education program areas in which a teaching certificate was held. This information appears in accompanying Tables 30, 31 and 32 respectively.

Table 30

Importance and Relevance of Courses Required for Certification According to Respondents Who Hold Teaching Certificates in Various Health Occupations Education Program Areas

N = 99

	Number of Respondents who Ranked Courses for Certification				
Program Area Certificate to Teach is Held	Most Definitely Important	Important	Somewhat Important	Of Little Importance	Of No Importance
*None	0	3	2	4	0
Dental Assistant	3	1	8	0	0
Dental Laboratory Technician	0	1	0	0	0
Health Assistant	5	8	6	8	3
Medical Assistant	0	2	2	0	0
Medical Laboratory Assistant	0	1	0	0	0
Nurses' Aide	0	2	1	2	0
Practical Nursing (discontinued)	1	3	8	5	1
Radiologic Technologist	--	--	--	--	--
**Other	2	6	6	4	1
Total	11	27	33	23	5

*None - includes respondents working toward certification requirements

**Other - refers to respondents certified to teach in several program areas, e.g., Health Assistant and Dental Assistant, etc.

Table 31

Perception of Respondents Who Hold Certificates to Teach in Program Areas of Health Occupations Regarding Adequacy of Certification Guidelines and Procedures Presently Established for Health Occupations

N = 102

	Number of Respondents' Perception of Adequacy of Certification Guidelines and Procedures			
Program Area Certificate to Teach is Held	Very Adequate	Adequate	Somewhat Adequate	Inadequate
*None	2	4	2	3
Dental Assistant	2	9	0	1
Dental Laboratory Technician	0	1	0	0
Health Assistant	4	11	8	7
Medical Assistant	0	2	1	1
Medical Laboratory Assistant	0	0	0	1
Nurse's Aide	0	2	2	1
Practical Nursing (discontinued)	0	4	1	13
Radiologic Technologist	--	--	--	--
**Other	1	8	6	5
Total	9	41	20	32

*None - includes respondents working toward certification requirements

**Other - refers to respondents certified to teach in several program areas, e.g., health assistant and dental assistant, etc.

Table 32

Type of Change(s) in Certification which Respondents with Teaching Certificates Felt Deserved Consideration According to Program Area

Program Area Certificate to Teach is Held	Flexible Requirements More	 Less	State Control More	 Less	Movement Toward Performance Based Model More	 Less	No Change Needed	Other 8-17
*None	3	0	1	1	3	--	0	1
Dental Assistant	1	0	0	1	4	--	2	1
Dental Laboratory Technician	0	0	1	0	0	--	0	0
Health Assistant	12	0	0	1	6	--	5	3
Medical Assistant	2	0	0	0	0	--	1	1
Medical Laboratory Assistant	--	--	--	--	--	--	--	--
Nurse's Aide	2	0	1	0	0	--	1	1
Practical Nursing (discontinued)	6	0	1	0	3	--	1	6
Radiologic Technologist	--	--	--	--	--	--	--	--
**Other	3	1	0	0	5	--	1	3
Total	29	1	4	3	21	--	11	16

*none - includes respondents working toward certification requirements

**other - refers to respondents certified to teach in several program areas, e.g., health assistant and dental assistant, etc.

Some comments of respondents with regard to certification were:

> Just and fair requirements should be established. Right now a dental assistant teacher is hired right out of a dentist's office and an RN with a master's degree and experience must obtain V credits. Interest of universities appears to be to build up VE programs and not that which will enhance teacher competency on an individual level.
>
> I need very few credits (3) and I will have permanent certification. As a diploma RN, I resented not being able to obtain any credit for my nursing--and have to earn 60 credits as other tradesmen who just had work experience and no formal educational background.
>
> Certification is ridiculous . . . after all a degree is needed to teach . . . why certification?

Competencies of Health Occupations Teachers and Administrators

This section (Part B) of the questionnaire attempted to secure judgments and opinions related to specific competencies of respondents in three areas: 1) Health Occupations Activities, 2) Instructional Activities, and 3) Leadership-Management Activities. Instructions requested participants to indicate the degree to which they felt competence was needed as well as the degree to which they had acquired competence in various areas. Respondents then merely checked if no, slight, moderate, considerable, or complete competence was needed as compared to the degree of competence they had acquired. Since each degree of competence carried a predetermined number of points--no - 1, slight - 2, moderate - 3, considerable - 4, and complete - 5,--these were multiplied by the number of items in each of the three areas for an overall total score for that particular area.

Health Occupations Activities

The total possible score a respondent could achieve in this area was 50 for "competence needed" and 50 for "competence acquired." The results of the survey placed the mean score for competence needed very slightly above (0.13) the mean score for competence acquired. See Figure 6.

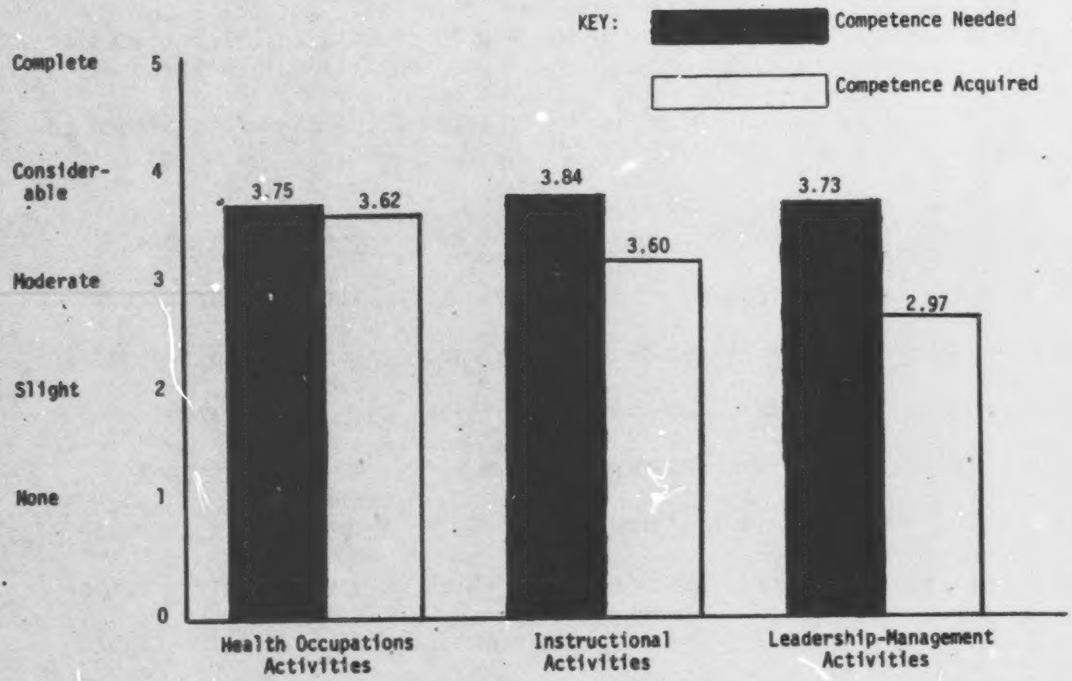


Figure 6. Mean Competencies of Health Occupations Teachers and Administrators . . . Needed and Acquired.

The various competencies in this section included such items as: "expertise in one's health specialty"; "awareness of regulatory functions in health occupations"; "understanding of and subscription to the philosophy of vocational education"; "understanding of issues and trends in health occupations education"; and "knowledge of biological, physical and behavioral sciences."

Another competency item included in this section, was "ability to assist students with problems relating to vocational and educational opportunities in health careers." It was interesting to speculate how the assertion made by Fox (1972) compared with the findings of this study regarding this item. Fox's study claimed that the type of training needed in health occupations education differed between secondary and postsecondary teachers . . . i.e., "Postsecondary teachers must be competent in the particular field for which they are responsible, whereas secondary teachers need a broad knowledge of the spectrum of vocations included in health careers." Findings of this study however, demonstrated that most health occupations teachers (secondary and postsecondary) felt they needed equall competence in both their particular field as well as in knowledge of the spectrum of health careers.

Position/Health Occupations Activities. For further comparison, the number of responses for each degree of competence acquired for the area of health occupations activities was cross-tabulated with the position title of respondents. These appear in Table 33.

It is apparent then, that a large percentage of respondents (teachers and administrators) felt considerably to completely competent in the area of health occupations activities.

Table 33

Responses for Degree of Competence Acquired in
Health Occupations Activities According to Position Title of Respondents

Degree of Competence Acquired	Teachers N = 189	Administrators N = 35
None	0	0
Slight	1	0
Moderate	22	4
Considerable	139	23
Complete	27	8

Instructional Activities (IA). The total possible score which could be achieved in this area was 70 for "competence needed" and 70 for "competence acquired." Findings placed the mean score for "competence needed" a little above (0.24) the mean score for "competence acquired." See Figure 6.

The various competencies in this section dealt with the development of an instructional program (process and content), evaluative procedures, and other instructional capabilities.

An item with an outstanding low mean score in this area with regard to competence acquired was: "ability to provide instructional and related services to special needs students." Respondents indicated that more competence was needed (3.8) than had been acquired (2.8).

Position/Instructional Activities. As with health occupations activities, the area of instructional activities (number of responses for each degree of competence acquired) was cross-tabulated with the position title of respondents. The responses follow in Table 34.

Table 34

Responses for Degree of Competence Acquired in Instructional Activities According to Position Title of Respondents

Degree of Competence Acquired	Teachers N = 187	Administrators N = 35
None	0	0
Slight	2	0
Moderate	37	10
Considerable	113	18
Complete	35	7

These findings demonstrate that respondents felt moderately to considerably competent in the area dealing with instructional activities. Consequently, this ranked somewhat lower than the area of health occupations activities.

Leadership Management Activities (LMA). The total possible score that could be achieved in this area was 35 for "competence needed" and 35 for "competence acquired." The mean score for "competence needed" was also a little above the score for "competence acquired" (0.76). See Figure 6.

Competencies in this area included items such as: "collecting, maintaining and disseminating information on students and graduates," "selecting and utilizing advisory committees," legal aspects related to health occupations education, preparing state reports, determining employer needs for health occupations personnel, formulating a program budget, and developing policies for program effectiveness.

Position/Leadership Management Activities. Since 82 percent of the respondents were teachers, and 18 percent were administrators, it was felt that leadership management activities scores would generally be lower both for "competency needed" and "competency acquired." Furthermore it was anticipated that leadership management activities scores would be higher in "competence acquired" for administrators. Results of the cross-tabulations are illustrated in Table 35.

Table 35

Responses for Degree of Competence Acquired in Leadership Management Activities According to Position Title of Respondents

Degree of Competence Acquired	Teachers N = 184	Administrators N = 35
None	4	0
Slight	30	0
Moderate	75	10
Considerable	62	20
Complete	13	5

These findings thus show that most administrators felt considerably competent in leadership management activities whereas most teachers felt only moderately competent.

Leadership management activities scores for competence acquired were low when compared with scores for health occupations activities and instructional activities. Findings revealed the lowest area for competence acquired to be in the preparation of state reports. Two other items scoring low were: 1) formulation of a program budget, and 2) selection and utilization of advisory committees.

Information Regarding Program Offerings

These findings pertain to questions one and two on the last page of the survey questionnaire which asked respondents to identify their interest in participating in health occupations teacher education programs, and their desirability regarding time and meeting preferences for such programs. The following findings are based on the responses to those questions.

Degree and Type of Participation

When asked about participating in health occupations teacher education programs, 66 percent of the respondents expressed much to very much interest. Table 36 below reflects the breakdown of participants according to interest in health occupations teacher education programs.

Table 36

Extent of Interest in Participating in a Program of Health Occupations Teacher Education

	Frequency	Percent
Very much	99	41.8
Much	50	21.1
Some	48	20.3
Little	19	8.0
None	11	4.6
No Response	10	4.2
Totals	237	100.0

$\overline{X}$ = much

A graphic representation (Figure 7) is illustrative of the great degree of interest in health occupations teacher education program. Only 11 of the respondents indicated no interest in this area. Some related comments of respondents concerning this question (C-a) were

> I would like to be involved in teaching such a course. Important Program!
>
> Very much--interested in health occupations teacher education programs.
>
> Would like to be a faculty member in such a program.
>
> I feel The Pennsylvania State University offers excellent courses for the health occupations teacher. Family obligations prevent me from attending at this time.
>
> I feel there should be a correspondence course set up because there are married people with families that would like to continue their education--this would be more convenient.
>
> I feel the whole system needs revamped. I felt I wasted an awful lot of time on certification which could better have been used for learning about my own area.

Approximately five respondents expressed strong feelings with regard to the importance of degree(s) in nursing education versus health occupations. Also, some of the respondents in the over 60 age category commented that they were not interested in health occupations teacher education programs due to their impending retirement.

A polygon (Figure 8) demonstrates respondents' preference with regard to course offerings in health occupations education. A large majority--45 percent or 91 of the respondents--indicated an interest in graduate degree courses. This is realistic in light of the large number of respondents who were teachers or coordinators in Practical Nursing programs, for which a baccalaureate degree is required. The second highest category of interest was in courses leading to certification. Since certification is mandatory for secondary teachers in Pennsylvania,

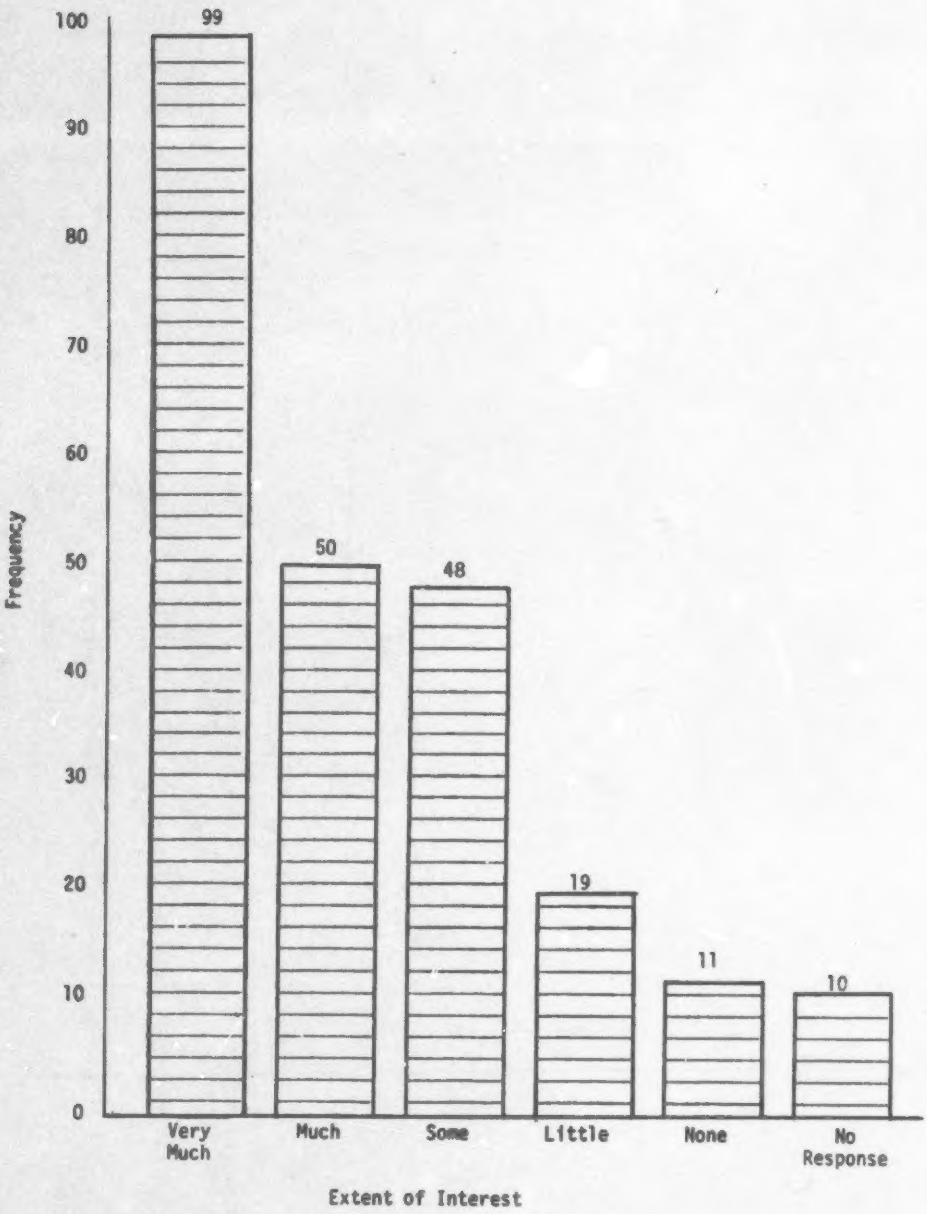
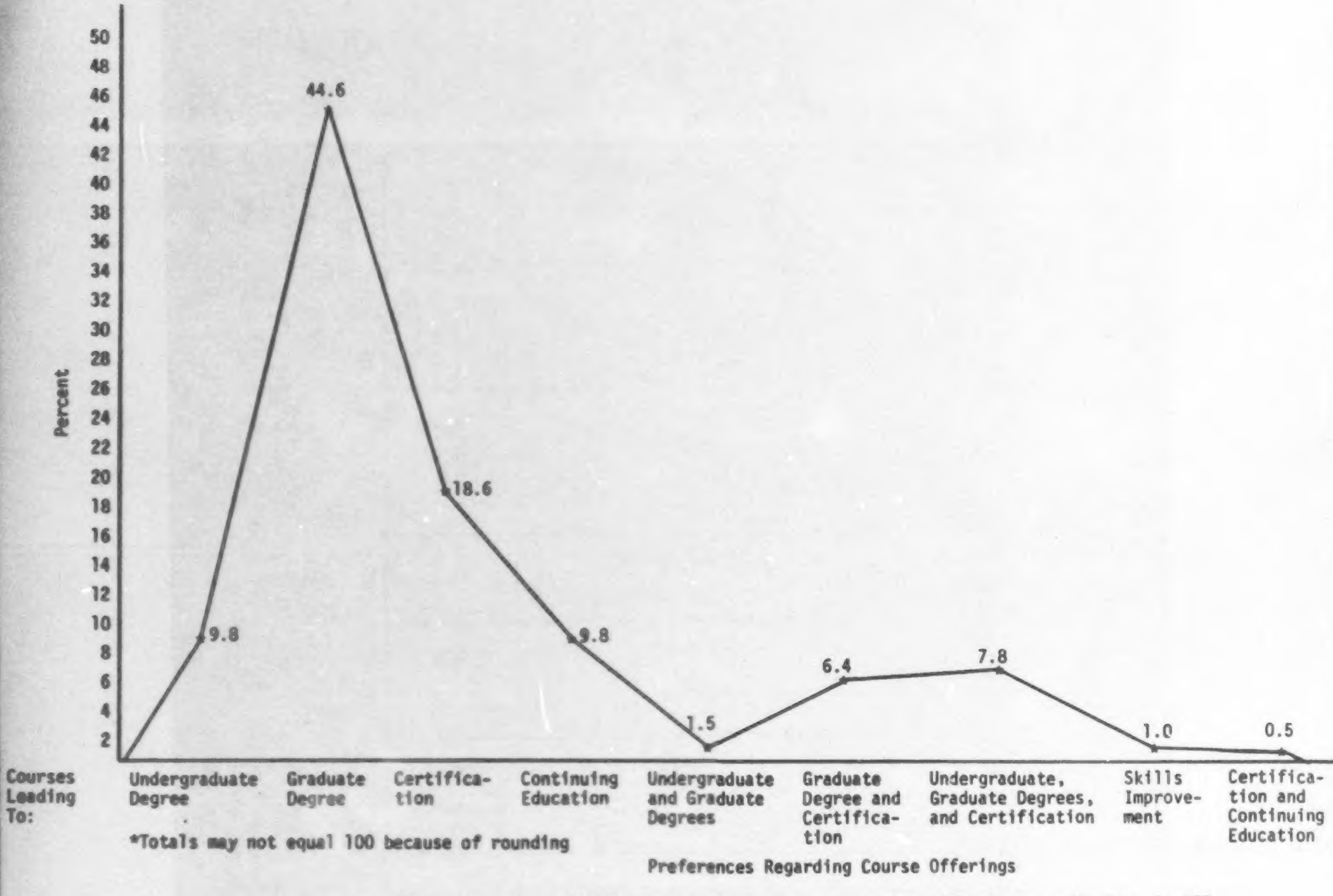


Figure 7. Histographic Illustration of Participants' Interest in Health Occupations Teacher Education Program (HOTEP).



*Totals may not equal 100 because of rounding

Figure 8: Percentage of Respondents' Preferences Regarding Course offerings in HOE.

it is understandable that this has also emerged as a high priority area. Some of the written comments of participants related to this question (c-b) were:

> I would like to see education for health occupations education teachers not become so highly structured that such education cannot be channeled into related fields at the graduate level. I am concerned over the diversity of educational requirements for Registered Nurses who wish to continue their education but find the degrees very limiting in practical application."
>
> More specific courses to upgrade skills should be offered . . . i.e., refresher courses for Registered Nurses, Medical Techs, Dental Assistants, etc. When was the last time a Registered Nurse Vo-Tech teacher served in an ICU (Intensive Care Unit) or CCU (Coronary Care Unit)?
>
> With increased articulation and career mobility patterns, graduate programs must focus more on intra as well as inter disciplinary educational approaches in health occupations education.

Question (C-a) . . . "to what extent are you interested in participating in a health occupations teacher education program" was cross-tabulated with question (C-b) . . . "What would be your preferences with regard to course offerings in health occupations education." This information is presented in Table 37. Besides the respondents expressing the greatest interest in graduate course offerings, at least 72 percent of this group (expressing preferences in graduate course offerings) were much to very much interested in a health occupations teacher education program.

Another cross-tabulation, Table 38 presents an overview of the respondents interest in participating in a health occupations teacher education program according to highest educational level attained. These results indicate that the majority in each education level--Diploma in Nursing; Associate, Baccalaureate, and Master's Degrees--expressed much to very much interest in participating in a health occupations teacher education program.

Table [illegible]

INTEREST IN PARTICIPATION IN A HEALTH OCCUPATIONS TEACHER EDUCATION PROGRAM

Respondents' Preferences With Regard to Course Offerings

Extent of Interest in HOTEP*	Undergraduate Courses		Graduate Courses		Courses for Certification		Courses for Graduate Degree and Certification		Undergraduate Graduate and Certification Courses		Continuing Education Courses	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Very Much	11	55.0	43	47.8	13	34.2	9	64.3	13	81.3	2	10.0
Much	4	20.0	22	24.4	11	28.9	1	7.1	2	12.5	5	25.0
Some	4	20.0	15	16.7	12	31.6	2	14.3	0	0.0	9	45.0
Little	1	5.0	7	7.8	2	5.3	2	14.3	0	0.0	2	10.0
None	0	0.0	3	3.3	--	--	0	0.0	1	6.3	2	10.0
Totals	20	100.0	90	100.0	38	100.0	14	100.0	16	100.0	20	100.0
Percentages	9.8		44.1		18.6		6.9		7.8		9.8	

*HOTEP - Health Occupations Teacher Education Program

Table 38

INTEREST IN PARTICIPATION IN A HEALTH OCCUPATIONS TEACHER EDUCATION PROGRAM

Responses According to Highest Education Level Attained

Extent of Interest in HOTEP*	All Respondents		Respondents with Diploma in Nursing		Associate Degree Respondents		Baccalaureate Degree Respondents		Master's Degree Respondents	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Very much	99	43.6	82	43.9	3	50.0	56	38.6	23	39.0
Much	50	22.0	39	20.9	1	16.7	37	25.5	15	25.4
Some	48	21.1	38	20.3	2	33.3	33	22.8	10	16.9
Little	19	8.4	19	10.2	--	--	12	8.3	7	11.9
None	11	4.8	9	4.8	--	--	7	4.8	4	6.9

*HOTEP - Health Occupations Teacher Education Program

Interest of respondents who are currently pursuing further education was likewise high, especially for those who are involved in working toward a degree, and those who are not involved in any program of study as revealed by the cross-tabulations in Table 39. Responses of those involved working toward a degree, certification, (or both degree and certification), adjunct or non-degree respondents, and those who are not involved in a program of study are presented.

Table 40 reflects a comparison between age of respondents and their interest in participating in a Health Occupations Teacher Education program. Interest seemed to decline somewhat for respondents aged 50 to 60 years of age. It was much higher for those in the 25 to 50 age group.

Time and Meeting Preferences

The first two of the last three questions asked participants to indicate time and meeting preferences for health occupations teacher education programs. Respondents were asked to consider scheduling of course meetings, suitable times to attend classes, and amount of distance they were willing to travel in order to participate in such programs.

The greatest percentage (31.4 percent) of respondents preferred two or three day workshops. Another large percentage (27.1) designated as their choice course meetings of once or twice a week per term. The third highest percentage (23.3) expressed interest in summer workshops. Other respondents checked a combination of schedules, and some wrote in "one day workshop," "once every three months," and "individual study" as their preference.

Table 39

INTEREST IN PARTICIPATION IN A HEALTH OCCUPATIONS TEACHER EDUCATION PROGRAM

Current Status With Regard to Educational Pursuits of Respondents

Extent of Interest in HOTEP*	Working Toward A Degree		Working Toward Certification		Adjunct or Non-Degree		Not Involved in a Program of Studies		Working Toward a Degree and Certification	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	n=81		n=26		n=9		n=87		n=12	
Very Much	41	50.6	13	50.0	3	33.3	24	27.6	10	83.3
Much	16	19.8	6	23.1	1	11.1	25	28.7	1	8.3
Some	14	17.3	6	23.1	4	44.4	21	24.1	0	0.0
Little	8	9.9	0	0.0	1	11.1	11	12.6	0	0.0
None	2	2.5	1	3.8	0	0.0	6	6.9	1	8.3

*HOTEP - Health Occupations Teacher Education Program

Table 40

INTEREST IN PARTICIPATION IN A HEALTH OCCUPATIONS TEACHER EDUCATION PROGRAM

Responses According to Age Level Expressed in Percentages

INTEREST IN HOTEP*	AGE CATEGORY								
	Under 25	25-30	31-35	36-40	41-45	46-50	51-55	56-60	Over 60
	N=7	N=21	N=31	N=34	N=44	N=40	N=33	N=20	N=7
Very Much	14.3	45.5	46.7	48.4	45.5	51.4	37.5	17.6	57.1
Much	42.9	23.7	26.7	19.4	18.2	18.9	25.0	17.6	14.3
Some	28.6	18.2	16.7	12.9	29.5	24.3	21.9	17.6	14.3
Little	14.3	4.5	6.7	12.9	4.5	2.7	6.3	35.4	14.3
None	0.0	4.5	3.3	6.5	2.3	2.7	9.4	11.8	0.0

* HOTEP - Health Occupations Teacher Education Program

Regarding the time(s) suitable to attend classes, 78 respondents (majority) indicated "nighttime during the week" as their preference. The second highest response was weekends, followed by daytime during the week. Others preferred a combination of times, and some felt that the time depended on class location, class length, and how frequently the class met.

Time and meeting preferences are graphically illustrated in Figure 9.

Distance

The last question requested respondents to identify the distance that he/she would be willing to travel to participate in a health occupations teacher education program. The majority (40.8 percent) chose the least amount of distance (0-20 miles) as that which they would travel. This finding can be correlated with the above regarding "nighttime during the week" as the time which many respondents checked to attend classes. Other responses were many and varied. Some of these plus the written comments of participants relating to course time(s) and meeting(s) follow:

> 20-40 miles for week-nights; over 60 miles for a two-three day or one-week workshop.
>
> I think teacher education programs should be offered at branch campuses around the state, instead of being centered only in several areas.
>
> Being a wife and mother, and working full-time I have found it difficult, if not almost impossible, to attend the courses that have been offered at their present locations--however, many of the courses have appealed to me greatly.
>
> Extend graduate courses to your satellite locations such as McKeesport and Latrobe. University Park is out of the question for night classes. Perhaps graduate students could meet at the main campus once or twice a semester.
>
> We need short-term offerings in our area, e.g., something offered on Saturdays or Sundays.

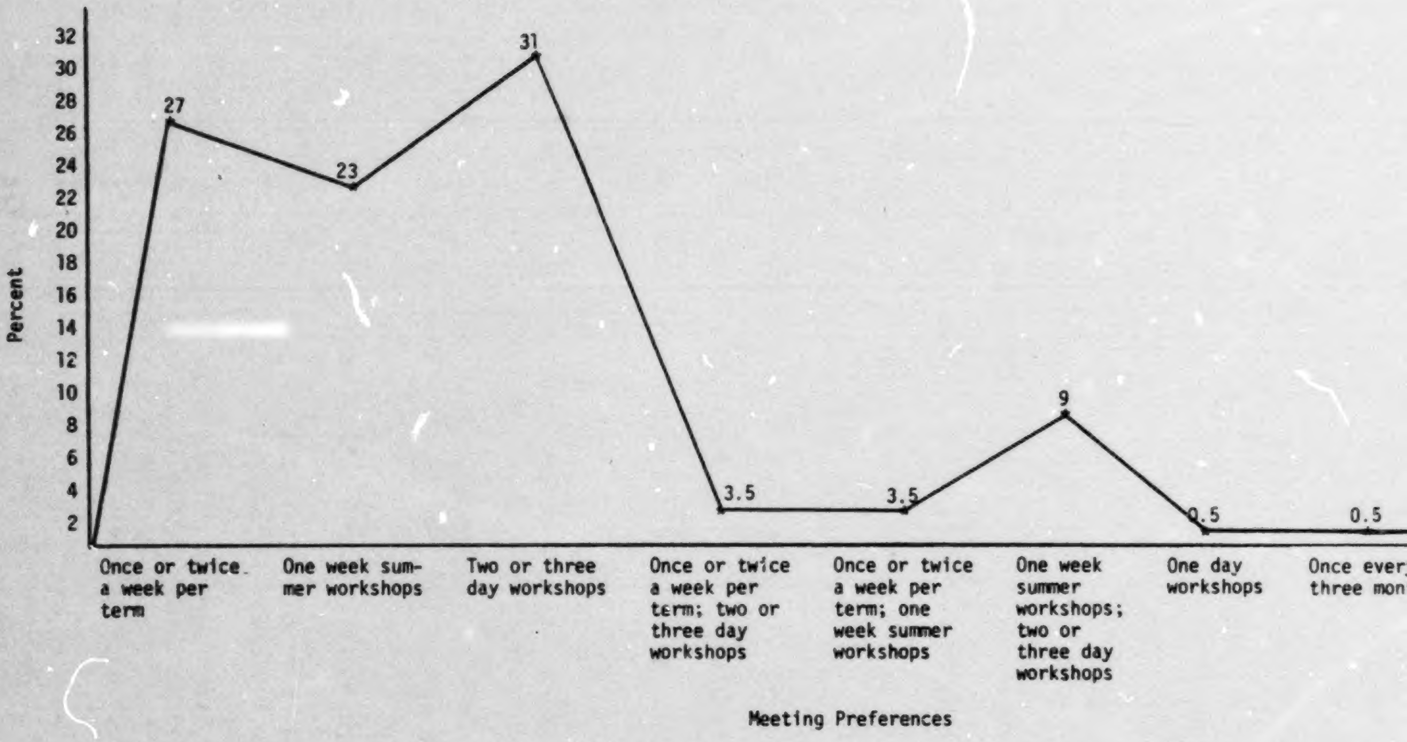
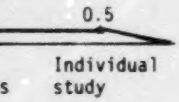


Figure 9 : Percentage of Respondents' Preferences Regarding Scheduling of Course Meetings


0.5
s
Individual study

> Employer will not grant time off for workshops during weekdays.

> The need for such a program is here in the Lancaster Area. I cannot attend classes like I want to because of time and miles away from home.

A breakdown of the responses to the last three questions relating to time and meeting preferences appear in Table 41, Table 42 and Table 43. Some written comments relating to distance participants would be willing to travel were:

> Need for such a program in Lancaster area--can't attend 0-20 miles from home because of responsibilities.

> I would be very much interested in courses at Ogontz Campus.

> Being in eastern Pennsylvania we are unable to participate in PSU programs other than summer workshops. I feel this is unfortunate. Any chance of bringing your programs to closer campuses, e.g., Montgomery and Bucks Counties?

Table 41

MEETINGS . . . How would you prefer course meetings to be scheduled:

	Frequency	Percentage
Once or twice a week per term	57	27.1
One week summer workshops	49	23.3
Two or three day workshops	66	31.4
Other	38	18.1
*Total Responses	210	100.0

Table 42

CLASSES . . . When would it be most suitable for you to attend classes:

	Frequency	Percentage
Daytime during week	38	19.2
Nighttime during week	78	39.4
Weekends	48	24.2
Other	34	17.1
*Total Responses	198	100.0

Table 43

DISTANCE . . . What distance would you be willing to travel in order to participate in a health occupations teacher education program:

	Frequency	Percentage
0 - 20 miles	87	40.8
20 - 40 miles	65	30.5
40 - 60 miles	26	12.2
Over 60 miles	26	12.2
Other	9	4.5
*Total Responses	213	100.0

*Total represents participants who responded to question

V

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

Summary

The need for qualified personnel to teach in Health Occupations programs has grown and will continue to grow in the future. These personnel must be competent in both occupational skills and ability to teach such skills. In order for such personnel to meet qualifications to teach, programs to prepare them adequately to assume teaching roles must be developed.

The conclusions of this study indicate that personnel presently teaching in Health Occupations Programs in Pennsylvania have pedagogical and andragogical needs that must be met. Therefore, the responsibility lies with colleges and universities to plan, develop and organize programs for those who will be preparing others to enter the field of Health Occupations.

The survey found that many respondents (74) have less than a Baccalaureate degree and that only a small number (46) are working toward the same type degree.

The study also indicated the majority of respondents have over five years of work experience in the field of Health Occupations. Like the Borkovich and Welch study (1975), the majority of respondents were females with a mean age of 41-45 years. Also, the majority of the respondents were employed full-time as teachers in Area Vocational-Technical Schools at both the secondary and postsecondary level. Community colleges followed Area Vocational Technical Schools in employing a large number of respondents. Practical Nursing programs were the teaching areas having the largest number of respondents (129), and Health Assistant programs followed with 37 respondents involved in this area.

The findings regarding qualifications of instructors currently teaching revealed a high significance between the correlation of degree earned and age of respondent . . . i.e., the older the respondent, the higher the degree held. This correlation was likewise true for a number of years of work experience in Health Occupations other than teaching and degree held--those working over five years tended to hold higher degrees. Thirty-five percent said they were working toward a degree, approximately 1w percent were working toward certification, and about 38 percent were not involved in any program of study.

Regarding teaching certificates held, 37 percent of respondents said they had none. Health assistant teachers were the greatest percentage (27.5) of respondents to hold teaching certificates.

The majority of respondents (76) felt certification guidelines were adequate to somewhat adequate. Forty-four respondents felt the guidelines were inadequate, and only ten felt they were very adequate. Most respondents (88) said courses taken for certification were very to somewhat important. Thirty-six said the courses were of little or no importance. It was interesting to find that the majority of respondents felt changes in certification of Health Occupations teachers should be more flexible.

A greater number of respondents planned to receive or had received certification from Temple University. This finding was possibly due to the fact that 101 of 237 total respondents were from Eastern Pennsylvania.

The degree of competence needed compared with competence acquired in the areas of Health Occupations, Instructional, and Leadership Management Activities revealed that respondents felt a greater need for competence in all three activities.

Respondents extent of interest in participating in a program of health occupations teacher education was very great--approximately 63 percent said they were very much interested in a program. About 45 percent said they were interested in a graduate degree. The majority of respondents preferred scheduling course meetings once or twice a week per term, one week summer workshops, or two-three day workshops. The findings also showed that nighttime during the week and weekends were the most suitable times for respondents to attend classes. The majority of respondents (71 percent) stated they were willing to drive a distance of 0-20 miles to participate in a health occupations teacher education program.

Recommendations

Based upon the findings of this study, the following recommendations are presented:

1. An education program designed specifically for health occupations teachers and administrators should be established. Such a program should reflect the following components:
    a. an orientation to the overall philosophy of vocational education and health occupations education, and how a particular program fits into the total area of health occupations
    b. the opportunity to develop teaching competencies e.g., ability in curriculum development and instructional processes.

   d. the recognition of competency-based equivalency of various health workers.

2. Certification guidelines and standards which take into account different health backgrounds of teachers and current assessment of needs should be considered. The criteria for certification needs to include the following components.
   a. a minimum of preparation in a health specialty
   b. flexible requirements to accommodate individual differences
   c. program offerings at a variety of locations and institutions

Conclusions

This study calls attention to the critical need for the establishment of a health occupations teacher education program. Findings not only indicate respondents' high degree of interest in such a program, but their need to develop competence in the various areas involved in health occupations education.

It seems that the information contained in this study deserves a response. Hopefully individuals and groups who can be instrumental in effecting needed changes in health occupations teacher education will respond.

BIBLIOGRAPHY

Abott, Ellen M. *How to Get a New Health Occupations Education Program Started*. Paper presented to the Health Occupations Education National Invitational Conference. Los Angeles: 1974.

American Association of Health, Physical Education and Recreation. "Recommended Standards and Guidelines--Teacher Preparation in Health Education." *Journal of Health and Physical Recreation*, (February, 1969), 31-38.

Arlton, Donna. *Competencies for Secondary Health Occupations Teachers*. Arvada, Colorado: 1975.

Arlton, D. M. "Critical Requirements for Secondary Level Health Occupations Teachers." Unpublished Ph.D. dissertation, University of Illinois, 1974.

Borkovich, George S., and Welch, Frederick G. Research report of *A Supply and Demand of Secondary Education Health Occupations Teachers in Pennsylvania*. University Park: The Pennsylvania State University, 1975.

Bruess, C. E., and Gay, J. E. "Professional Preparation of the Health Educator." Report of a Forum sponsored by the American School Health Association, Committee on Professional Preparation. *Journal of School Health*. (April, 1976). 222-226.

Burkett, Lowell A. *Problem Areas in the Allied Health Field and What Needs to be Done to Promote Success*. Paper presented to the Health Occupations Education National Invitational Conference. Los Angeles: 1974.

Cotrell, Calvin. *Model Curricula for Vocational Technical Teacher Education*. Report No. 1. Columbus, Ohio: Ohio State University, December, 1971.

Davies, D. "A Search for Relevancy." *Theory Into Practice*, VI (1967), 215-218.

"Determining Future Directions for the Development of Efficient and Effective Teacher Education Programs." Report of the Health Occupations Education National Invitational Conference. Los Angeles: 1974.

Evans, Rupert N. *Foundations of Vocational Education*. Columbus, Ohio: Charles E. Merrill, 1971.

Evans, Rupert N. *Vocational Education: Staff Development Priorities for the '70's*. Washington, D.C.: National Advisory Council on Education Professions Development, 1973.

Ford, J. A. "History of Vocational Teacher Certification in the United States." *Certification of Vocational Technical Educators*. Edited by S. T. Brantner. University Park: The Pennsylvania State University, 1974.

Fox, Norris. Report of a Research and Demonstration Program for Preparation of Health Occupations Teachers for Secondary and Post-Secondary Schools. Conway, Arkansas: State College of Arkansas, 1973.

Holloway, Lewis D. "Guidelines and Supportive Papers for Planning and Conducting Short-term Teacher Education Activities - Developing Teaching Competencies Needed by Educational Personnel in Post-Secondary Health Occupations Programs." Report of a paper presented to a National Institute in 1969. Iowa City: Iowa University, 1970.

Holloway, Lewis, and Bailey, Larry. Final report on *Developing Teaching Competencies Needed by Educational Personnel in Post-Secondary Health Occupations Programs*. Iowa City: Iowa University, 1971.

Huffstutler, E. Vaughn, and McCallon, E. I. Final report of Study of *Needs for Vocational-Technical Professional Personnel Development in Texas*. Austin: Texas Educational Agency, 1973.

Kerr, Elizabeth. "Characteristics Needed for Effective Leadership in Health Occupations Education." Group discussion leader at the Health Occupations Education National Invitational Conference. Los Angeles: 1974.

Kintgen, J. K. "Health Occupations Education: Will the Profession Respond?" *American Journal of Nursing*, (September, 1974), 1652-1654.

Klerka, W. R., Nie, N. H., and Hull, C. H. *Statistical Package for the Social Sciences*. New York, N.Y.: McGraw-Hill, 1975.

Knowles, Malcolm S. *The Modern Practice of Adult Education: Andragogy vs. Pedagogy*. New York: Association Press, 1970.

Latshaw, Lois. *Development of a Health Occupations Continuing Education Center*. Evansvill, Indiana: School of Health Occupations.

Milliken, Elizabeth. "Certification Standards for Personnel in Health Occupations Education." Group discussion leader at the Health Occupations National Invitational Conference. Los Angeles: 1974.

"Priorities for the '70's: A Summary." Washington, D.C.: National Advisory Council on Education Professions Development, 1973.

Powers, H. K. My Hopes and Fears for Health Occupations Education. Paper presented to the Health Occupations Education National Invitational Conference. Los Angeles: 1974.

Ramp, Wayne S. "Vocational Certification: A National Overview." Certification of Vocational-Technical Educators. Edited by S. T. Brantner. University Park: The Pennsylvania State University, 1974.

Report of Research and Demonstration Programs for Preparation of Health Occupations Teachers for Secondary and Post-Secondary Schools. Conway Arkansas: State College of Arkansas, 1973.

Rzonca, Chester S. "Certification for Health Occupations Education." Group discussion leader at the Health Occupations Education National Invitational Conference. Los Angeles: 1974.

Tomlinson, R. "Defining the Role of Health Care Personnel Based on Developed Task Analysis." Group discussion leader at the Health Occupations Education National Invitational Conference. Los Angeles: 1974.

United States National Center for Education Statistics. Digest of Educational Statistics. Washington, D.C., U.S. Government Printing Office, 1975.

United States Office of Education. Standard Terminology for Curriculum and Instruction in Local and State School Systems. Washington, D.C.: U.S. Government Printing Office, 1970.

United States Office of the Federal Register. Federal Register. Washington, D.C., January 7, 1970.

Vocational Education Personnel Directory 1976-1977. Prepared by the Bureau of Vocational Education, Pennsylvania Department of Education.

Wenrich, R. C. and Wenrich, J. W. Leadership in Administration of Vocational and Technical Education. Columbus, Ohio: Charles E. Merrill, 1974.

APPENDIX A

Research Abstract submitted to The Pennsylvania State University Human Subjects Review Committee

Research Abstract

This project will survey the pedogocial and andragogical needs of identified health occupations teachers and administrators in Pennsylvania (secondary, postsecondary, and adult). Once these needs have been identified, a teacher education program suitable to health occupations teachers at the undergraduate and graduate level will be recommended. In addition, based on perceived needs. criteria for teacher certification of health occupations educators will be identified and developed.

It is anticipated that approximately 350 coded questionnaires will be mailed to the group identified above. Other than a code which identifies responses according to one of three Regional Vocational Education service areas, no other identifying criteria will be used. To further assure the anonymity of respondents, the mailing list key will be destroyed after the questionnaires have been returned.

After data has been obtained, it will be recorded and analyzed. The project report will only publish significant statistical values.

Results of this project will be made available to participants upon request as well as disseminated to appropriate agencies.

APPENDIX B

Questionnaire and Transmittal Letter

THE PENNSYLVANIA STATE UNIVERSITY
COLLEGE OF EDUCATION
Division of Occupational and Vocational Studies
RACKLEY BUILDING
UNIVERSITY PARK, PENNSYLVANIA 16802

January, 1977

Dear Colleague:

The teaching-learning process in health occupations education will be improved to the extent that teachers participate in quality teacher education activities. Relative to this objective, the Division of Occupational and Vocational Studies at The Pennsylvania State University is presently undertaking a study to determine essential criteria in the preparation of teachers for health occupations education programs in secondary and postsecondary schools in our commonwealth.

Your cooperation and involvement in this undertaking is quite important. The input which you provide will influence the development of future programs in health occupations teacher education in our state.

Based upon the data provided by this study, several outcomes are anticipated:

1) The development of a model for undergraduate and graduate teacher education preparation programs.
2) The development and identification of criteria for teacher certification of health occupations educators.

Would you please be so kind as to take a few minutes to respond to this questionnaire? You will remain anonymous; the attached code number will simply designate your vocational service area. Your responses will then be grouped with those of other health occupations teachers and administrators, and only significant averages and other statistical values will be reported.

Please return your questionnaire in the self-addressed prepaid envelope by March 11, 1977. Should you desire a copy of the completed survey, please make known your request under separate letterhead along with your name and address. Do not mail such requests along with questionnaire.

Thank you for your cooperation.

Sincerely,

F. Marvin Hole

F. Marvin Hole
Assistant Professor
Vocational Education

FMH/kas

Enclosures

Home Economics Education — 814-865-5441 Industrial Arts Education — 814-863-0275 Vocational Industrial Education — 814-865-8363

SURVEY QUESTIONNAIRE OF HEALTH OCCUPATIONS TEACHERS AND ADMINISTRATORS

Part A: Background Data

Please answer the following questions about yourself by placing a check (✓) in the appropriate blank.

1. A. Position Title:

_____ Teacher
_____ Other, please specify _______________________________
_____ Coordinator

B. Employment Status:

_____ Full-time
_____ Part-time

2. Present Teaching Area:

_____ Dental Assistant
_____ Health Assistant
_____ Health Related Technology
_____ Home Health Management
_____ Medical Assistant
_____ Medical Lab Assistant
_____ Nursing Assistant
_____ Practical Nursing
_____ Other, please specify
____

3. Facility Where Employed:

_____ Area Vocational School, secondary level
_____ Area Vocational School, post-secondary level
_____ Area Vocational School, adult level
_____ Community College
_____ Comprehensive High School
_____ Other ____

4. Sex:

_____ Male
_____ Female

5. Age:

_____ under 25 years
_____ 25-30 years
_____ 31-35 years
_____ 36-40 years
_____ 41-45 years
_____ 46-50 years
_____ 51-55 years
_____ 56-60 years
_____ over 60 years

6. Education and Employment:

a. Diploma(s) earned: _____ RN Diploma _____ None
_____ Other _____________________________

b. Type of Degree(s) held:

_____ Associate Degree, Type _____________________________
_____ Baccalaureate Degree, Type _____________________________
_____ Master's Degree, Type _____________________________
_____ Doctorate - Type _____________________________
_____ None

c. Current status with regard to educational pursuit(s):

_____ working toward a degree
_____ working toward a certification
_____ adjunct or nondegree student
_____ not involved in a program of studies

d. Work experience in the field of health occupations (other than teaching):

_____ 0-2 years _____ 11-15 years
_____ 3-5 years _____ 16-20 years
_____ 6-10 years _____ over 20 years

NOTE: IF YOU ARE AN R.N. AND ARE WORKING TOWARD OR HAVE ACQUIRED A BACCALAUREATE DEGREE PLUS ALSO HOLD EITHER AN ASSOCIATE DEGREE OR A HOSPITAL SCHOOL DIPLOMA, PLEASE PROCEED TO ANSWER e AND f, OTHERWISE GO ON TO QUESTION 7, PAGE 3.

e. Number of credits granted toward baccalaureate degree:

_____ credits

f. Method(s) of verification of educational and professional competence by degree-granting institution.

_____ Competency evaluation
    _____ written exam
    _____ performance test
    _____ written exam and performance test
    _____ other _____________________________
_____ Grade transcripts from previous institutions
_____ Licensure
_____ Other _____________________________

7. Certification:

a. Type of Teaching Certificate(s) Held:

_____ None
_____ Vocational Intern Certificate
_____ Vocational Instructional I (Provisional)
_____ Vocational Instructional II (Permanent)
_____ Instructional I (Provisional)
_____ Instructional II (Permanent)
_____ Coordinator of Vocational Education I
_____ Coordinator of Vocational Education II
_____ Education Specialist I
_____ Education Specialist II
_____ Supervisory I
_____ Supervisory II
_____ Administrative I
_____ Administrative II
_____ Cooperative Education Instructor Endorsement
_____ Other _______________________________________

NOTE: IF YOU ARE PRESENTLY CERTIFIED OR ARE TAKING COURSES TOWARD CERTIFICATION, PLEASE PROCEED TO ANSWER b, c, d, AND e. OTHERWISE GO ON TO PART B, PAGE 5.

b. Program area of health occupations in which a certificate to teach is held:

_____ None
_____ Dental Assistant
_____ Dental Laboratory Technician
_____ Health Assistant
_____ Medical Assistant
_____ Medical Laboratory Assistant
_____ Nurse's Aide
_____ (Discontinued) Practical Nursing (Applies only to individuals issued college certificates prior to change in requirements)
_____ Radiologic Technologist
_____ Other _______________________________________

7. Certification (Cont'd):

c. How do you perceive the adequacy of certification guidelines and procedures as presently established for health occupations teachers and administrators?

_____ Very adequate

_____ Adequate

_____ Somewhat adequate

_____ Inadequate

d. As compared to other courses and educational experiences, how would you rank the importance and relevance of courses taken specifically for certification?

_____ Most definitely important

_____ Important

_____ Somewhat important

_____ Of little importance

_____ Of no importance

e. What type of change(s) if any, in the certification of health occupations teachers do you think deserve(s) consideration?

_____ more flexible requirements

_____ more state control

_____ movement toward performance-based model

_____ no change is needed

_____ less flexible requirements

_____ less state control

_____ movement away from performance-based model

_____ other

f. The institution from which you received or plan to recieve certification:

_____ Temple University

_____ University of Pittsburgh

_____ The Pennsylvania State University

_____ Other ______________________________

Part B: Competencies of Health Occupations Teachers and Administrators

Please indicate your opinion relative to specific competencies by checking the degree to which you feel competence is needed in Column A and the degree to which you feel already competent in Column B. You will have two responses to each item.

EXAMPLE

A Competence Needed						B Competence Acquired				
NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE		NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE
			X		Conducting follow-up studies of health occupations graduates		X			

This example illustrates that the individual believes that considerable competence is required in conducting follow-up studies of health occupations graduates and, that he/she possesses slight competence in this area.

A Competence Needed						B Competence Acquired				
NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE	HEALTH OCCUPATIONS ACTIVITIES	NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE
					Expertise in one's occupational specialty i.e., dental assisting, nursing					
					Awareness of various regulatory functions in health occupations i.e., accreditation, certification, etc.					
					Understanding of and subscription to the philosophy of vocational education					
					Awareness of current professional and technical information					
					Knowledge in biological sciences, i.e., anatomy and physiology and bacteriology					
					Knowledge in physical sciences, i.e., chemistry and physics					
					Knowledge in behavioral sciences, i.e., psychology and sociology					
					Skill in the performance of various laboratory, medical or bedside procedures					
					Understanding of issues and trends affecting health occupations					
					Ability to assist students with problems relating to vocational and educational opportunities in health careers					

A Competence Needed						B Competence Acquired				
NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE	INSTRUCTIONAL ACTIVITIES	NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE
					Formulation of philosophy and objectives for an instructional program					
					Selection and development of instructional content for a course and/or unit of instruction					
					Organization of instructional sequence					
					Analysis of appropriate performance skills (procedures, etc.) relative to instructional content					
					Identification of out-of-school learning experiences, i.e., clinics, community agencies and industries					
					Determination of appropriate teaching methods and techniques					
					Recognition of individual learning needs of students					
					Selection of relevant learning materials, i.e., texts and visual aids					
					Development of instructional materials, i.e., information sheets and various handouts					
					Direction and moderation of group discussions and conferences					
					Utilization of resource persons in presenting course information					
					Establishment of criteria for program evaluation					
					Ability to provide instructional and related services to "special needs" students, i.e., handicapped and/or disadvantaged					

A Competence Needed						B Competence Acquired				
NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE		NO	SLIGHT	MODERATE	CONSIDERABLE	COMPLETE
					Establishment of evaluative criteria with regard to student performance					

LEADERSHIP - MANAGEMENT ACTIVITIES

					Collection, maintenance and dissemination of information on students and graduates					
					Selection and Utilization of advisory committees					
					Understanding of the significance of the law as it relates to the educative process in health occupations, i.e., legal aspects with regard to clinical experience, work experience, students' rights, etc.					
					Preparation of state reports (statistical as well as planning)					
					Determination of employer needs for health occupations personnel					
					Formulation of a program budget (in cooperation with administrator)					
					Development of policies to maintain program effectiveness					

Part C: Information for Program Offerings

1. **Degree and Type of Participation:**

   a. To what extent are you interested in participating in a health occupations teacher education program:

   _____ very much

   _____ much

   _____ some

   _____ little

   _____ none

   b. What would be your preference(s) with regard to course offerings in health occupations education:

   _____ courses leading to an undergraduate degree

   _____ courses leading to a graduate degree

   _____ courses leading to certification

   _____ other ____

2. **Time and Meeting Preferences:**

   a. How would you prefer course meetings to be scheduled:

   _____ once or twice a week per term

   _____ one week summer workshops

   _____ two or three day workshops

   _____ other ____

   b. When would it be most suitable for you to attend classes:

   _____ daytime during the week

   _____ nighttime during the week

   _____ weekends

   _____ other ____

   c. What distance would you be willing to travel in order to participate in a health occupations teacher education program:

   _____ 0-20 miles

   _____ 20-40 miles

   _____ 40-60 miles

   _____ over 60 miles

Additional Comments or Suggestions: